The OIL WEEKLY

A Journal for
Oil and Gas Producers and Field Men

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Vol. 32. No. 8 FEBRUARY 16, 1924 10 Cents Per Copy

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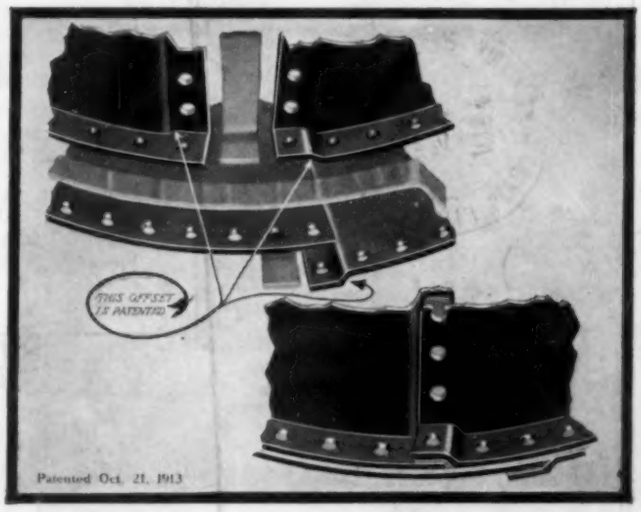

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Offices and Plant: Tulsa, U. S. A.

MADE OF KEYSTONE COPPER STEEL — 60 TO 3,000 BBLS. INCLUSIVE — PROMPT, DEPENDABLE EXPORT SERVICE — MADE OF KEYSTONE COPPER STEEL

MALONEY

MALONEY PATENTED BOLTED COPPER-STEEL TANKS

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The other one is an "Oilwell" Bottom Set Combination Wall and Anchor Packer. If the bottom of the hole goes through to China, this packer'll stay put. It's the slips that catch against the walls that do that, and a wonderful invention they are.

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PITTSBURGH, U. S. A.

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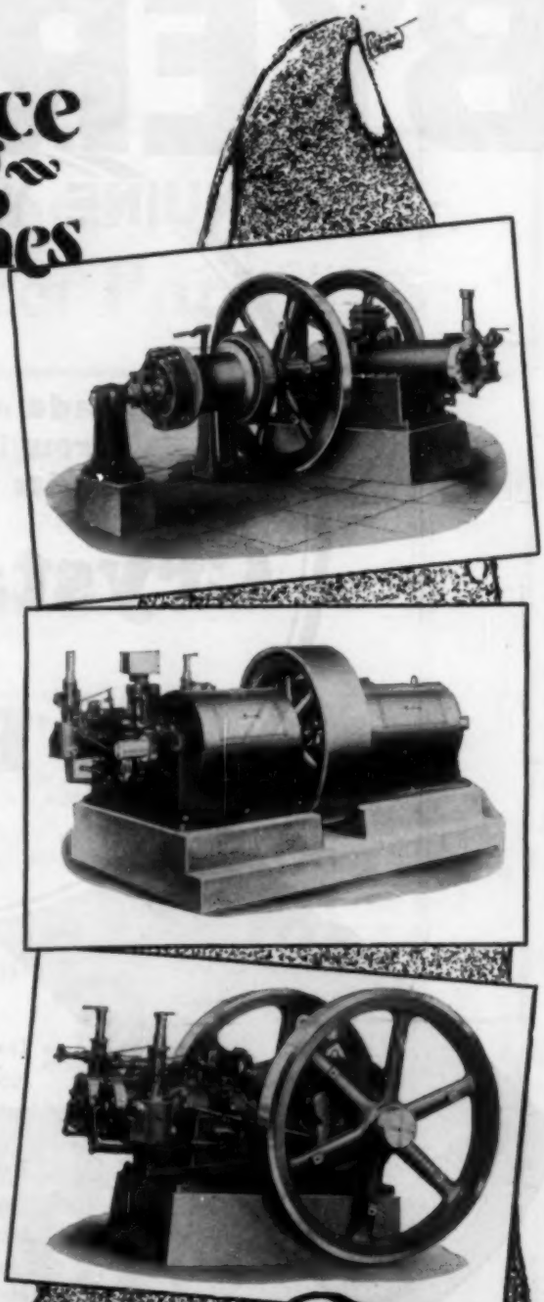
OIL WELL SUPPLY CO

World's Largest Manufacturers of Oil Field Equipment

THE OIL WEEKLY. Issued weekly by the Gulf Publishing Co., 1716 Dallas Ave., Houston, Texas. Subscription price $1.00 per year; 10 cents per copy. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879.

Another Instance of Standardizing on "WESTERN" Engines



On May 17, 1923, we sold our first 40 H. P. "Western" Engine to a well-known oil company

—AND on July 10th, 1923, we sold them nine 160 H. P. and two 60 H. P. "Western" Engines.

—AND THEN on August 21st we sold them one 160 H. P. "Western" Engine.

—AND AGAIN on December 2nd we sold them two 160 H. P. "Western" Engines.

—AND FINALLY on January 10th we sold them three 160 H. P. and one 60 H. P. "Western" Engines.

A Total of 2620 H. P.—Name on request.

As we understand it these were **all** the gas engines purchased during that period of time by this company.

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WESTERN

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GENUINE WROUGHT IRON

Made of tough, fibrous wrought iron, noted for its resistance to

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and

Rust

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If you are on the lookout for better tubing and casing—pipe which will stand up more successfully in very severe service, whether it is due to rust, or to great physical strains, or to both—the record of Byers pipe will interest you. Get the facts.

Literature on request

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Established 1864

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E. A. Small, Jr., 1614 Carter Bldg., Houston, Texas

J. A. Armstrong, Los Angeles, Cal.

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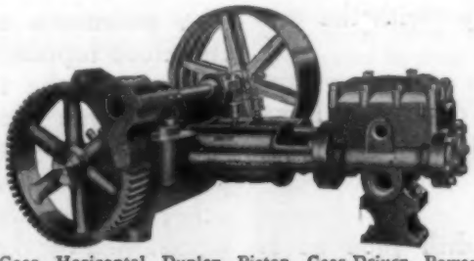
(2) The work of all workmen is periodically inspected to see that no defects creep in from that source;

(3) No pump ever leaves the Gaso factory before every part from stud bolt to main-frame passes our rigid inspection.

The model pictured below is one of a complete line. We will gladly give full specifications of the type you require.



Gaso Horizontal Duplex Piston Gear-Driven Power Pump designed for working pressures ranging from 200 to 800 lbs. Large direct unobstructed fluid passages and valve areas; simple design; rigid construction.

GASO PUMP & BURNER MFG. CO., TULSA, OKLA.

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for oil field uses

Minimize Twist-Offs!

Dunn Super Elevators, Automatic Link Release Type, made in rotary sizes only, do away with the use of pipe slips.

Two elevators and one set of links —instead of one elevator and a set of slips.

Such damage to drill pipe as is caused by the use of slips is entirely eliminated.

The enormous saving effected is therefore represented by a marked decrease in the number of fishing jobs, a large percentage of which are caused by the crushing and crystallizing action and various other forms of damage to drill-pipe occasioned by the use of pipe slips.

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All Standard Codes

Correspondence in all Languages

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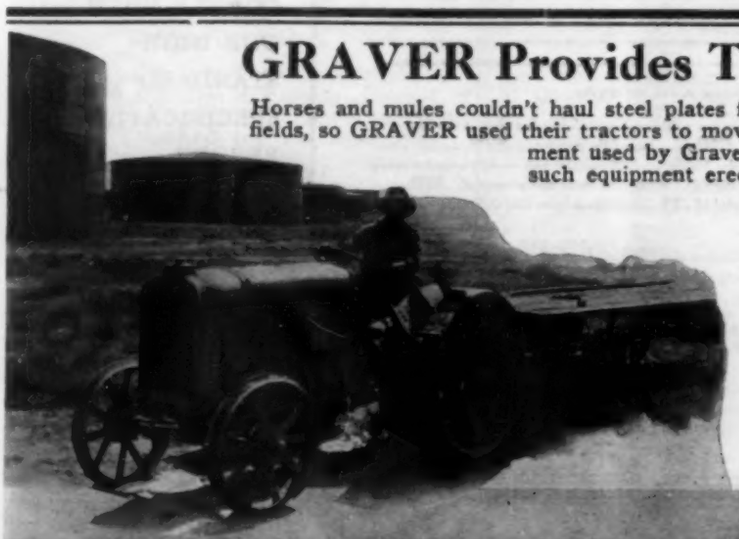
GRAVER Provides Their Own Transportation



Horses and mules couldn't haul steel plates fast enough to keep up with schedule in the Casper fields, so GRAVER used their tractors to move them. This is just one item of the erection equipment used by Graver to keep work going forward without delay. With such equipment erectors are given the incentive to better, faster work.

The result is better tanks, quicker completions, and lower prices accordingly.

Right now you can get exceptionally prompt shipment of all sizes of shop and field erected STANDARDIZED tanks.

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CAST STEEL VALVES

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Pittsburgh Testing Laboratory

Pittsburgh, Pa., U. S. A. November 20, 1923.

REPORT OF INSPECTION AND TEST TO PITTSBURGH REINFORCED BRAZING & MACHINE COMPANY

One Type 7-M KERO TEST Steel Valve Number 1458

Manufactured by Pittsburgh Reinforced Brazing & Machine Company

Shipped to NORVELL WILDER HARDWARE CO., Houston, Texas

Used by

Norvell Wilder

Ref. No. NYC 8189 Agent's No. TE44-E Customer's No.

Valve No. 1458 Type M Size 6-5/8 Weight 729

Threads 10 Kind D.P.T. Cast Taper 3/8 Date 11-20-23

Inspectors private mark PTL stamped on each face of valve.

All castings used on this valve are cast steel, excepting the hand wheel which is cast iron. The stem is made of nickel steel and the seats are steel

THIS IS TO CERTIFY that Valve Number 1458 has been carefully inspected during the process of manufacture and assembly, and has been tested to a pressure of 8000 pounds per square inch for a period of 24 Hours, using KEROSENE as the testing medium.

At the conclusion of this test a pressure of 1000 pounds per square inch was applied against one side of the gate, with the gate in the closed position, and while subject to this pressure, the valve was opened.

The gate was again closed and the pressure brought up to 8000 pounds per square inch and held for a period of 30 minutes.

PITTSBURGH TESTING LABORATORY

H. Snyder

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This INSPECTION SERVICE is the same as having your own inspector in our plant to witness our severe test and inspect valves before shipment to you.

KEROTEST is the PERFECT VALVE for every Oil Country Service.

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Say you saw it in The Oil Weekly

THE OIL WEEKLY

An International Oil Publication for Oil and Gas Producers

MEMBER AUDIT BUREAU OF CIRCULATION

Established 1916

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Vol. 32 SATURDAY, FEBRUARY 16, 1924 No. 8

In this issue.

Way Off

Curtailment plans in Oklahoma during the last three months of 1923 played havoc with the aggregate recovery of crude oil from the state during that period. A loss of approximately 15,000,000 barrels is shown for the quarter. Page 15.

Here's a New One

A small purchaser in Oklahoma owned by the Ohio Oil Company, has set the pace in price making with a 25 cent increase announced in the territory where that concern buys. Major purchasers are expected to fall in line soon. See the market section beginning on page 17.

Among the Oldest

But not through yet is the challenge offered by oil fields in France. Operations are picking up and much development is promised for the next few months. And they are getting some oil, too. Page 14.

Tempest in Teapot

And oh, how it does boil. This week resignations have been asked of everybody except the president. The latest developments in the big noise is on page 13.

Give 'Em a Chance

It is time to take a peep at the old producers and see what can be done to put them on a paying basis. Let's don't overlook this bet in the hurry to find flush output. Read the editorial on page 11.

California Old Fields

With the passing of enormous flush production in the new fields in California, operators are turning to old fields. It is evident that the big potential production on the west coast is in fields that have been tested and are known to have long life. Kern County is counted the most important among these. Page 20.

How They Did It

When one large concern found the tide giving them trouble in securing a water supply they built a floating pump house. How it works and how it was built is contained in the story on page 48.

Volcanic Matter

A recent discovery of volcanic matter in a core taken below 2400 feet in the Monroe gas field of Louisiana may lead to a key bed for this section which will cover a large area. Page 5.

Regular Features

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KEY TO ABBREVIATIONS

Following is the explanation of abbreviations and signs used in drilling reports, completions, etc.: *—dry, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million cubic feet of gas; abn—abandoned; bbls—barrels; b. s.—basic sediment; cas—casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in—inches; lcn—location; m—milling; N. S. E. W.—North, South, East, West; r—reaming; sd—shut down; sdtr—sidetracking; sp—spudded; sr—straight reaming; std—standardizing; sw—salt water; td—total depth; ur—under reaming; wo—workover; wosr—waiting on standard rig.

Safety—and Rules

All successful business organizations have certain rules and limitations which employes must know. The producing end of the oil business is no different from many other businesses. Safety and rules go hand in hand. See page 41.

Watch the Colonel

East Central Texas is to be thoroughly tested by Colonel E. A. Humphreys interests. The region to be tested is along the Balcones fault and has much the same appearance as Corsicana-Powell and Luling. The strip of country where these several tests will be made is from three to 15 miles in width and approximately 80 miles long. Page 67.

Panhandle Active

Considerable acreage in the Carson County section of the Panhandle is to be tested during the spring and summer. There is much leasing going on now and a deal was recently transacted regarding acreage in this vicinity, which involved $100,000. Page 67.

Efficiency

Water troubles in the Kern River field have caused much expense to operators there. What has been done to successfully shut off this water is told on page 21.

Reserve Theories

During these days of such enormous consumption of oil and its products, much attention is being given to the question of oil reserves in different parts of the country. An expert gives his opinion as to what can be expected from the Rocky Mountain section of the United States. See page 24.

Oklahoma's Newest

The Stroud field in Lincoln County, Oklahoma, is to the front with indications of becoming a real producing section. The past, present and future history of the district will be found in the story beginning on page 49.

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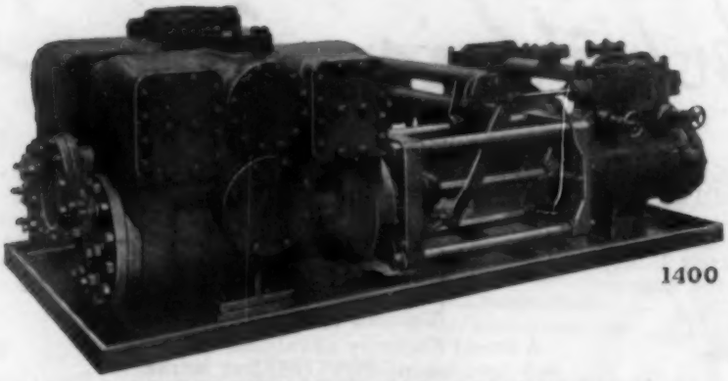
PUMPS HOT TAR

without churning



12x9x18" Block Valve Pump with base plate drip pan, for 300 lbs. working pressure

The New TRANSIT Heavy Duty Block Valve Pump was designed to handle either hot or heavy liquids or semi-liquids around refineries. The material pumped is introduced and expelled from the pump through large direct fluid passages of easy turns and bends that cannot trap air and through special design valves now made larger than ever. The large fluid passages handle the fluid easily and efficiently without churning.

Pumping hot tar around 700° Fahr. is hard on rod packing. So the stuffing boxes are made deeper to lessen wear on the packing and rods. Tie-bar construction renders the stuffing boxes easier of access, thereby inviting more frequent and accurate adjustments.

NATIONAL TRANSIT
Pump & Machine Company

OIL CITY, PA.

DISTRICT OFFICES

Kansas City Denver Houston New York Pittsburgh Cleveland Philadelphia

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THE OIL WEEKLY

An International Oil Publication for Oil Producers

ESTABLISHED 1916 — MEMBER AUDIT BUREAU OF CIRCULATION — VOL. XXXII-No. 8

Clean Up

The natural impulse of spring is to "clean up." Nature's grand renewal of everything that grows puts a feeling in man that it is up to him to do his part.

While this idea of cleaning up is presenting itself, would it not be wise to do some cleaning up in the oil fields?

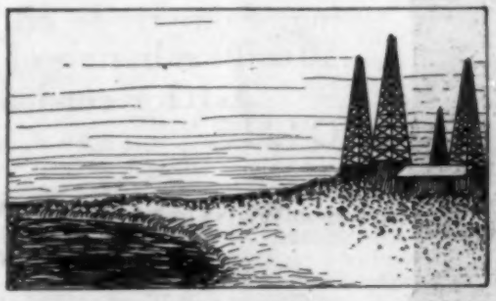
Before we get too far gone on the race for new production which is now pending, wouldn't it be worth while to spend a little time on putting the old wells in better shape for doing their part?

Last year's flood of oil and the low prices encouraged in many instances neglect of properties which can be made really profitable again through proper attention. Wells which have been neglected can now profitably be cleaned out, the machinery repaired and the pumping operation given a better chance. The returns from such work will not be so gratifying and spectacular as the bringing in of new gushers, perhaps, but the wells which were not so attractive last year can probably be made to yield up some of the lost profits if given attention now.

The cleaning up process can also extend to making the lease a safer place to work. We naturally have lost interest in things during the slump, and repair work has been kept to the very minimum. This forced economy has resulted at times in makeshift repairs which present a real hazard to the men who work about them. The patched machinery and the weakened structural parts can now be given the right treatment through the supply of a new piece for the broken part, since the change in situation presents a more hopeful outlook. Equipment that has stayed in service past its safe usefulness can now be cast aside, and things put back as they should be.

The money cost is hardly to be counted. Things worth having are worth having right, and anything operated inefficiently is a loss. If it is not worth putting in shape it should be due for the junk heap.

Cleaning up will mean more profit for the owner and less danger for the men who run things.



The OIL WEEKLY wants only such subscribers as are engaged in the oil producing or pipe line business, or sub-branches of the producing and pipe line business. It has no desire for investor circulation, and it reserves the right and will exercise the right to reject subscriptions coming from persons whose only interest in the oil industry is through the purchase of oil stock.

R. L. DUDLEY, Publisher.

TRET-O-LITE NEUTRALIZES THE EMULSIFYING AGENT

Strikes at ROOT of Cut Oil Trouble

The late William S. Barnickel, originator of the chemical process for treating petroleum emulsions

The late William S. Barnickel discovered that "B. S." contained oil and salt water which were held together in a homogeneous mass by the aid of an **emulsifying agent,** and that by destroying this emulsifying agent by acting upon it with the proper chemical agents, the oil and water would separate naturally by gravity.

William S. Barnickel was a professor of chemistry, a practical chemist, and a student whose mind penetrated to the ROOTS of problems. He knew that every emulsion is caused by the presence of an emulsifying agent, the action of which can be neutralized by other chemicals and the emulsion thus "broken".

On finding that Cut Oil and "B. S." are emulsions—(he was the first to make known this now recognized fact)—it remained for him to find a chemical means of neutralizing the emulsifying agents in petroleum emulsions.

The answer was TRET-O-LITE. It strikes at the ROOT of the difficulty, neutralizes the thing that causes the emulsion, and thus is COMPLETE in its action. ALL the oil is recovered.

The use of TRET-O-LITE has grown by leaps and bounds until it is now recovering, from crude oil emulsions, upward of 50 million barrels of pipe line oil each year.

Ask for our handsome book, "TRET-O-LITE."

WM. S. BARNICKEL & CO.

St. Louis, Mo.

Offices and Plant: Webster Groves, St. Louis Co., Mo.

Tret-O-lite

The properties which have caused such a stir in the U. S. Senate. In the background are seen the derricks now operating on Teapot Dome and the Sinclair Camp.

Tempest in Teapot Continues to Boil

Investigating committee passes resolution asking for Denby's resignation

Washington, D. C., Feb. 12.—The tempest in the Teapot continues. However, it seems that the whole incident is rapidly becoming purely political and the question which brought about the original investigation is forgotten.

The senate investigating committee has passed a resolution asking Secretary Denby to resign from the cabinet, on the grounds that he exceeded his authority in signing the lease on Teapot Dome. Denby has refused to resign and the president has said emphatically that he will not require the resignation. It has been intimated by another cabinet member that "the senate is authorized to confirm nominations of cabinet officers and to try them on impeachment for wrongdoing. Otherwise it has no authority over the tenure of office of cabinet members." Undoubtedly the senate will have to change its tactics as it did when Ex-Secretary Fall told the body that he did not have to answer their questions or give testimony.

McAdoo appeared before the committee and explained his connection with the Doheny organization, declaring that his relation never brought him in touch with the Teapot Dome situation.

Objections to the appointment of the men chosen to act as special counsel have been voiced. It is not known as yet, however, whether these objections will amount to anything or not.

Attempts to force an admission from F. G. Bonfils, publisher of the Denver Post, that Harry F. Sinclair had purchased the silence of the Denver newspaper in connection with the Teapot Dome lease, failed. Bonfils was emphatic in his denials.

Sinclair is now on his way back to the United States and has declared that he is willing to answer any further questions that the committee desires to ask him.

Attorney General Daugherty has remained silent. Intimations are that he has no intention of resigning.

President Coolidge has said that "as soon as special counsel can advise me as to the legality of these leases and assemble for me the pertinent facts in the various transactions, I shall take such actions as seem essential for the full protection of the public interest. I shall not hestitate to call for the resignation of any officials whose conduct in this matter in any way warrants such action. I shall not sacrifice any innocent man for my own welfare, neither shall I retain in office any unfit man for my own welfare."

In the meantime the senate committee keeps up the fight, making investigations and passing back and forth over the table, personal opinions as to what ought to be done with everybody connected with leasing the oil reserves.

Standard Makes Reply

With reference to the resolution offered by Senator Walsh, which called upon the Secretary of the Interior to take steps for the recovery of sections 16 and 36 of Naval Reserve No. 1, the Standard Oil Company makes the following statement:

"The company has no section 16 in No. 1 reserve. The decision made by Secretary Fall in 1921 in respect to section 36 is beyond criticism. It was the only decision he could make. The attempt to link the Standard Oil Company with the scandal in respect to Naval Reserve leases is absolutely unwarranted and unfair. The company has no interest direct or indirect in a single acre of naval reserve leases.

"The facts in regard to section 36 are very simple. The land was granted to the state of California by Act of Congress in 1853, granting the 16th and 36th sections not known to be mineral, and the grant became effective when the land was surveyed in 1902. In 1904 the Land Office, Mr. Hitchcock being Secretary of the Interior, determined that the land was not known mineral and affirmed the title of the state. In January, 1908, the United States local land office certified to the state that there was no valid claim against the state title. In August, 1908, 480 acres of section 36 were taken up by purchasers from the state. In November, 1909, these 480 acres were sold to the Standard Oil Company. Approximately 160 acres of section 36 were sold in 1910 to other purchasers from the state. In 1919 the latter made a contract with the Standard Oil Company for the operation of these 160 acres. Prior to the contract referred to, the company had nothing to do directly or indirectly with the taking up of these lands from the state of California and assertions which have been made to the contrary are not true.

"No oil was produced in this vicinity until the Standard Oil Company drilled the section in 1919. It appears that in 1914 proceedings had been directed to be filed as to this section on the ground that it was known mineral at the time title passed to the state. But no action was taken on these proceedings nor were they brought to the attention of the company until early in 1921. The commissioner of the general land office himself testified in the land committee hearings in congress that the title to this section was not in dispute.

"In 1916 this section and other lands in Naval Reserve No. 1 owned by other oil companies, were tendered to the Secretary of the Navy in order to create a complete government ownership of the entire reserves. The offer was declined on the ground that the Navy Department and its experts did not consider the land valuable for oil.

"Early in 1921, two years after the Standard Oil Company discovered oil on this section, which then had been in private ownership for over 13 years, the company was advised that proceedings were to be instituted for the recovery of the section by the government. The company asked the Department of Justice to suspend action until it could be heard in opposition to so inequitable and groundless a suit. The company did not desire its property tied up in years of litigation and its operations and large investment rendered inactive. The Department of Justice informed the company that it had no jurisdiction in the matter except to protect the property by injunction and receivership pending the determination by the De-

French Fields in Line for Big Development

One of the oldest producing countries in the world, France still has possibilities

THOUGH oil production in France can by no means claim the antiquity of that in Persia and Mesopotamia fields, it does date back to the fourth and fifth centuries when legend described fantastic flames arising from a pool of pitch, believed to be a sinful knight expiating his crimes. This country can, however, claim a commercial production that stands unique amongst the oil fields of the world, and it has always presented considerable interest in this respect. This Alsatian field is now the place of unusual exploitation between Pechelbronn and Haguenau by the Pechelbronn Company.

In 1498 this bituminous spring was exploited by the people of the area to the extent of skimming from the surface oil for their illuminating purposes. Early in the 17th century a concession was granted to exploit this spring, as a certain grease of marvelous curative value was derived therefrom. About a century later a gallery was constructed to the stratum of oil-impregnated sand, and soon after then the first hand dug well was sunk. Drilling was not introduced until 1881. By means of hot water employed in a mine of shafts and galleries, the oil was extracted very successfully, and to some extent the pumping of excess oil that gathered in underground sumps was employed. Gradually this oozing process has developed into the present-day system of operation.

Unlike most of our American fields, the strata present no folding, but instead dip gently northeast-southwest approximately parallel to the faults of this Tertiary plain. All the oil is extracted from Oligocene sands varying from a few hundred feet in depth to 2000 feet. The deposits are scattered amongst the impermeable argillaceous limestones in varying forms. Those at the shallower depths are small and elongated lentils extending parallel to the general strike of the strata and here is found a very heavy black oil exploited between 1735 and 1888. From about 500 feet to 2000 feet are larger deposits that produce a much lighter oil. The known deposits are confined in general to a line that parallels the fault of Saverne and just east of this fault.

Sketch Map Showing Oil District of Pechelbrom

The recent great developments in the area are the result of perfect cooperation of geologist and prospectors; and the new company, "Pechelbronn," organized since the recovery of Alsace by France, has proceeded in these new developments along scientific lines, and the present condition of the mines is modern and efficient.

The attidude of the strata in the Pechelbronn district makes the system of shafts and galleries exceedingly practicable, and the production for over ten years has averaged more than 300,000 barrels yearly. The shafts are from 12 to 20 feet in diameter and from 450 to 750 feet deep. At the depth of the oil sand galleries are constructed parallel to the did of the sand and about 300 feet apart, and there extend from 500 to 1000 feet up and down the dip with branch galleries at numerous points. Oil drains down the walls of these subterranean hallways into gutters which conduct the oil to pools from which it is pumped to the surface. Whereas only 17 per cent of the oil contained in the sand can be pumped to the surface through the usual well boring method, the gallery system obtains 58 per cent.

Up to 1917 when the oozing system was elaborated and perfected, the production had been 5,500,000 barrels, and a reserve of 14,000,000 barrels has been estimated for only the already exploited area alone. There is no knowing how much greater amounts lie hidden for later discovery. This simple system opens a new and interesting future for Alsace, and the French look forward to a thriving industry here. The Pechelbronn district possesses 74 miles of pipeline and four refineries with a total capacity of 200,000 barrels per year.

The great Pechelbronn Company operating this large concession is enjoying a heretofore unknown prosperity, and they have made some very recent enlargements and extensions that have called for an increase in the capitalization.

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partment of the Interior whether the land was known oil land when the survey was approved in 1903. The company was advised that if it would not drill the property pending that determination, a receivership would be avoided and no injunction would be needed. The company gave the necessary assurance. There was then nothing for the attorney general to do. The company then appealed to Secretary of the Interior Fall to decide the issue raised by the proceedings that had been instituted. He was proper tribunal for that purpose. Briefs were filed with him which, doubtless, are still on file, by which he was sufficiently impressed with the showing on the law to order a public hearing. Eleven days' notice was given and a public hearing was held on June 8, 1921, in Secretary Fall's office. There were present besides the secretary, the Assistant Secretary of the Interior, the representative of the Land Office, who had come from San Francisco, as we understood, for this purpose, the Special Assistant Attorney General in charge of naval reserves and who had been in charge of these matters under prior administrations, the naval commander representing the Bureau of Steam Engineering of the navy, the Assistant Attorney General, representing the Department of Justice, and numerous other persons. A full presentation was made to the secretary. The facts presented were not disputed, but as presented, were expressly affirmed by the government representatives, to be correct. This appears from the stenographic reports of the hearing. Secretary Fall decided that this section of land was not known to be valuable for oil in 1903, and that the state of California and its purchasers had good title thereto. Under the law it was his duty to decide this case and he could not correctly have decided it otherwise than he did. Any other decision would have been a gross injustice to the owners who drilled on the land, relying on a title which had been vested in the state for 15 years.

"As a matter of fact, his decision added nothing to the title and he could not have reasonably held that land, which was decided to be worthless for oil in 1904 and which was believed to be worthless for oil in 1916, was known to be valuable for oil in 1903. The agitation in respect to the matter is apparently an endeavor to involve the Standard Oil Company in a controversy with which it has no concern and is apparently based on a disregard of the law and the facts of the case."

New Well Making High Gravity Oil—Tests 48

Fort Worth, Texas, Feb. 11.—Crude oil testing 48.5 gravity (corrected) is being produced by the wildcat well completed early last month in the upper part of Palo Pinto County by the Zada Belle Oil Company (Dalton & Hughes) on the G. N. Weldon lease, and probably ranks as the highest grade of oil being produced in the state. The well came in with an initial flow of about 50 barrels of oil with a heavy flow of wet gas after shot in sandy lime pay from 3885 to 3955 feet, and has since settled to about 25 barrels of oil daily with the gas flow unabated. It is located several miles south of the town of Pickwick, and about six miles to the northwest of the Dalton pool. The Sinclair Pipe Line Company strung a two inch line five miles to obtain the oil, and is paying the top posted price.

Ten Leading Companies in Oklahoma

(Fourth Quarter, 1923)

Company—	Fourth Quarter 1923	Third Quarter 1923	Second Quarter 1923	First Quarter 1923	Fourth Quarter 1922
Gypsy Oil Company	3,130,141	3,973,893	4,916,084	3,489,815	1,619,519
Phillips Petroleum Company	2,554,999	3,089,022	906,024	.....	.....
Comar Oil Company	1,402,026	4,149,797	4,960,704	2,798,219	396,402
Skelly Oil Company	2,173,279	3,056,069	3,526,283	1,614,968	932,031
Carter Oil Company	2,065,480	2,900,918	2,142,016	1,766,849	1,969,213
Magnolia Petroleum Company	1,605,652	1,517,945	1,408,540	1,401,802	1,395,505
Prairie Oil and Gas Company	1,572,254	1,531,839	1,641,663	1,639,954	2,327,612
Sinclair Oil and Gas Company	1,333,888	1,252,105	1,397,023	1,339,888	1,590,081
Roxana Petroleum Company	731,579	.....	.....	.....	.....
Wolverine Petroleum Company	683,881	.....	.....	.....	.....
Total all companies fourth quarter 1923					26,104,877
Total all companies third quarter 1923					40,249,817
Total all companies second quarter 1923					44,749,630
Total all companies first quarter 1923					40,985,081
Total all companies fourth quarter 1922					38,577,443

Curtailment Brings Big Loss in Quarter

Oklahoma production drops 15,000,000 barrels during last three months of 1923

SHUT DOWN agreements and unfavorable weather conditions reduced Oklahoma production figures nearly 15,000,000 barrels during the fourth quarter of 1923. Early in the summer, shut down plans went into effect in the larger fields, but marked declines in the amount of oil produced did not show until during the last three months of the year. Throughout the fall weather conditions were so unfavorable to field activities that practically no drilling was done and some of the fields were completely shut down on account of high water and impassable roads. Figures for the quarter show 26,104,877 barrels recovered.

Of the 10 companies producing the most oil, the Gypsy Company heads the list for the fourth quarter with a total of 3,130,141 barrels. Comar Oil Company, which headed the list for the third quarter, dropped to third place during the fourth. This company's records show 2,554,999 barrels. Comar is the biggest operator in Burbank. The shut down agreement restricted more wells in Burbank than in any other district and this fact no doubt accounts for the Comar company's decline. The Phillips Petroleum Company came up one place during the fourth quarter, taking second place with a total recovery of 2,402,026 barrels.

All other companies producing more than a million barrels of oil take the same place in the list as they had last quarter.

Figures for the fourth quarter are the lowest reported since 1921. Substantial decreases are reported from every company producing above the 800,000 barrel mark. Most of the big companies dropped approximately 1,000,000 barrels. Proration undoubtedly had something to do with the decreases. Except in instances where a company's property was manifestly being drained by wells on other property, no attempts were made to bring production up. The general discouraging situation in the industry had much to do with this.

However, since the first of January, development work is reported to be picking up in all fields. Roads and weather conditions are still hampering factors, but in spite of these disadvantages, the trend of production is swinging upward already. With Burbank increasing and other important fields witnessing new producers, figures for the first quarter of 1924 will show material advances over those reported for the last quarter of 1923, but it is not likely that the decrease of 15,000,000 barrels will be offset.

Production by individual companies for the fourth quarter will be found below in tabulated form:

Company and Location—	Barrels
Abraham, Joe, Bristow	878
Adams, John Q. & Alex A. Dennison et al, Claremore	152
Adams & McGahey, Ardmore	326
Adams Bros. & Prince, Ardmore	1,176
Aetna Pet. Co., Pittsburgh, Pa.	1,012
Aggas, John, Morris, Okla.	222
Aiken, F. M., et al, Okmulgee	145
Albert, W. O., Tulsa	249
Albion Oil Co., Tulsa	10,805
Alcorn Oil Co., Ponca City	12,229
Aldrew Oil & Gas Co., Tulsa	1,312
Alert Oil Co., Lockport, N. Y.	83
Alexander, J. H., Tulsa	261
Alexander-Shakely Pet. Co., Tulsa	12,374
Allen, G. R., Tulsa	498
Allen, J. R., Tulsa	198
Allen Well Company, Allen	533
Allison , R. J., Tulsa	6,831
Almeda Oil Co., Bartlesville	3,477
Amerada Pet. Corp., Tulsa	404,660
American Contracting & Prod. Co., Bartlesville	388
Am. Oil De. Co., Pittsburgh, Pa.	9,352
American Oil & Gas Co., Bartlesville	4,781
American Eagle Oil Co., Bartlesville	39,521
American Pipe Line Co., Wichita Falls, Texas	5,135
Am. Royalty Pet. Co., Tulsa	960
Amster, N. L., Ardmore	50,109
Anderson, C. T., Trustee, Dallas, Tex.	3,945
Andes Oil & Gas Co., Tulsa	515
Anglo-Texas Oil Co., Tulsa	24,755
Anthis, Austin F., Muskogee	908
Arkansas Nat. Gas Co., Pittsburgh, Pa.	2,498
Armstrong Trust Co., Tulsa	933
Arthur Oil Co., Sistersville, W. Va.	8,871
Ashland Oil Co., New York, N. Y.	8,143
Associated Oil Co of Texas, The, Wichita Falls, Texas	160
Atchison Oil & Gas Co., Atchison, Kas.	2,358
Atlantic Oil Prod. Co., Dallas, Texas	73,869
Atlantic Pet. Co., Boston, Mass.	2,470
Atlantic Pet. Corp. Tulsa	145,050
Atlas Oil & Gas Co., Okmulgee	443
Atlas Pet. Co. et al, Kansas City, Mo.	172
Attleberger & Cochrane, Tulsa	396
Aubyme Oil & Gas Co., Garber	4,327
Ault & Ross, Vinita	3,558
Avery, Cyrus C., Tulsa	96
Avery Oil & Gas Co., Tulsa	2,213
Ayling, A. B., Bartlesville	25
Aztec Oil Co., Tulsa	30,115
Babler, Jacob L., St. Louis, Mo.	294
Baker, Frank A., Tulsa	358
Baker Oil & Gas Co., The, Independence, Kansas	283
Baker & Strawn, Tulsa	31,056
Ball, Cora G., Trustee, Coffeyville, Kas.	903
Bamm Oil Co., Tulsa	220
Banford Oil Co, Tulsa	596
Barber Oil Co., Tulsa	516

Company and Location—	Barrels
Barnsdall Oil Co., Tulsa	324,268
Barr & Painter, Nowata	315
Bartles-Johnstone Oil Co., Bartlesville	884
Bartlett, D. A., Estate, Marietta, Ohio	1,008
Bartlett, J. B., Tulsa	
Bauder & Franklin, Tulsa	167
Baxter, A. B., Estate, Atlantic City, N. J.	
Baxter, L. W., Tulsa	759
Bay State Oil Co., Kansas City, Mo.	1,067
Bay State Oil Co., Kansas City, Mo., & The Paden Oil Co., Okla. City	13,703
Baynes, John A., Exec., Mounds	8,109
B. B. & Waite Drilling Co., Bartlesville	429
B. Jack Oil Co., Sapulpa	51
Beacon Oil Co. & Boston & Osage Oil Co., Bartlesville	963
Beal, C. E., Depew	6,810
Beal, C. E., Depew	1,066
Beams, Drew, Okmulgee	1,066
Beasley, S. A., P. H. Stein & M. S. Mussellem, Muskogee	2,057
Beau-Ard Oil Co., Ardmore	126
Bebout, W. M., Bartlesville	701
Beggs Oil & Gas Co., Okmulgee	94
Bell Oil & Gas Co., Warren, Pa.	10,255
Ben Franklin Oil Co., Enid	4,533
Bergen Oil & Gas Co., Tulsa	901
Berlin & Duffield, Tulsa	5,303
Best, Geo. C., Marietta, Ohio	1,526
Best, F. A. & W. J. Lambert, Tulsa	1,618
Berry, Geo. D., Coffeyville, Kans.	206
Betty G. Pet. Co., Cement	499
Biddle Oil Co., Tulsa	433
Big Four Oil Co., Independence, Kans.	1,268
Big Windy Oil Co., Tulsa	265
Billy Oil Co., Chelsea	1,441
Bingman, O. A., Okmulgee	196
Bingman, Smith Oil Co., Okmulgee	6,104
Bingman, W. B., Okmulgee	3,613
Bingman, W. B., Trustee, Okmulgee	6,104
Bird, Gaffney & Simons, Bradford, Pa.	944
Bisett, Chas. F. & J. J., Tulsa	2,702
Bisett, Lytle & Gray, Tulsa	14
Black, E. F., Tulsa	5,668
Black, Geo. E., Los Angeles, Calif.	1,635
Black, J. J. Phoenix, Ariz.	24
Black, L. E., Okmulgee	150
Black, Sivalls & Bryson, Inc., Bartlesville	5,606
Blackstone Oil Co., Tulsa	1,843
Blackwell Oil & Gas Co., Blackwell	2,326
Blakeslee, H. W., Nowata	253,521
Bloch Oil Co., Tulsa	2,042
Blum Oil Co., Nowata	1,099
Boesche, F. W. C., Coffeyville, Kans.	73
Boeschlin, A. E., Warren, Pa.	654
Bole, Geo. S., Tulsa	208
Boles, Neal & Perry, Cleveland	103,605
Bolivar Run Oil Co., Tulsa	966
Bonnell, John M., Grand Rapids, Mich.	1,274
Boop, Geo. T., Nowata	1,807
Boop, Sitz & Calvert, Nowata	30
Borealis Oil Co., Okla. City	279
Bovaird, W. M., Sapulpa	36
Braden Company, The, Tulsa	5,027
Braden & Moore, Tulsa	700
Braden & Myers, Tulsa	15,986
Braden, Myers & Clinkscales, Tulsa	1,371
Braden, Overton & Braden, Tulsa	1,123
Bradfield, C. H., Tulsa	5,236
Bradley, E. A., Anna & A. E., Tulsa	1,432
Bradnorking Oil & Gas Co., Tulsa	2,219
Bradstreet, J. G. & Co., Tulsa	1,087
Brady, E. H., Tulsa	686
Brady, E. H., Fred & John Swanson & Dan Kelly, Tulsa	388
Brandes Oil Co., Nowata	1,446
Brann, James, Bartlesville	121
Brann, James, Receiver, Bartlesville	2,910
Branson & Harmon, Nowata	1,585
Breene, Frank M., Tulsa	1,392
Breene, Frank M. et al, Tulsa	1,886
Breene, Mabel V., Tulsa	9,545
Brewer, R. C., Receiver, Chelsea	93
Bridgman Oil Co., Nowata	793
Bright, Samuel, Okmulgee	202
Britton-Johnson Oil Co., Tulsa	320
Brothers Oil Co., Inc., Tulsa	13,796
Brown, Chas. H., Okla. City	121
Brown, L. H., Karns City, Pa.	23
Brown, Robert D., Trustee, Kansas City, Mo.	177
	4,520

Company and Location—	Barrels
Brown, Guy Oil Co., Wichita Falls, Tex	6,325
Brownlee, Mitchell & Kellough, W. A. Brownlee, Trustee, Tulsa	733
Bruen, Rigdon & Bruen, Kansas City, Mo.	306
Brundred Oil Corp., Oil City, Pa.	1,976
Bruner, A., Tulsa	512
Bruner Oil Co., Independence, Kas.	643
Bryan, J. S., Okla. City	4,444
Bucher, P. O., Bartlesville	574
Buckles, C. O., Tulsa	6,691
Bull Head Oil Co., Ardmore	9,580
Burke & Greis, Tulsa	1,127
Burke-Greis Oil Co., Tulsa	1,839
Burke-Hoffeld Oil Co., Tulsa	28,610
Burns, J. R., Lawton	476
Burton-Springfield Oil Corp., Tulsa	9,023
Buttram Pet. Corp., Okla. City	14
Bynum, Maude A. et al, Tulsa	1,042
Cabin Valley Mining Co., Chelsea	2,090
Cala Belle Oil Co., Cement	1,468
Callahan Oil Co., Omaha, Neb.	345
Callihan, W. F., (By J. M. Wright, Atty. in fact) Sapulpa	100
Campbell, H. B., Welch	195
Campbell, H. C., Nowata	2,470
Campbell, H. L., Nowata	615
Campbell, H. L., Trustee, Nowata	491
Campbell, Nevlin, Bartlesville	221
Campbell Oil Co., Tulsa	4,144
Campbell & Wolford, Tulsa	748
Canada Oil Co., Nowata	416
Canadian Prod. Corp. Inc., D. L. Owsley & W. L. Walker, Receivers, Tulsa	11,610
Canadian U. S. Oil & Ref. Corp. Chicago, Ill.	1,239
Canary, J. D., Littleton, Colo.	5,923
Canary, S. C., Tulsa	8,294
Canary & Canary, Littleton, Colo.	2,474
Canfield, G. W., Yale	943
Canterbury, S. L., Bristow	4,068
Carey Oil & Gas Co., Wellsville, N. Y.	389
Carlock & Dexter, Ardmore	1,313
Carmen, Geo. S., Trustee, Bristow	5,817
Carmen, Akin & Argue, Bartlesville	922
Carpathia Pet. Co., Tulsa	17,466
Carr, J. M., Okmulgee	433
Carr, M. L., Okmulgee	3,921
Carter, S. L., Plattsburg, Mo.	271
Carter Oil Co, The, Tulsa	2,065,480
Cassidy, Alice M., Admrx., Guthrie	5,412
Catlett, J. G., Tulsa	36
Catlett-Davis Oil Corp., Tulsa	138
Central National Oil Co., Okmulgee	9,494
Central Pet. Co., Tulsa	9,749
Central Union Oil Co., Tulsa	1,055
Chalfant, C. C., Trustee, Pittsburgh, Pa.	849
Chamberlain, H. G., Marietta, Ohio	345
Champlin Refining Co., Enid	25,770
Chandler Oil Co., Bartlesville	506
Chestnut & Smith Corp., Tulsa	16,157
Chief Drilling Co., Okmulgee	1,937
Clark, L. P., Independence, Kans.	233
Clarion Oil Co., Houston, Texas	4,920
Clarke, Maurice G., Muskogee	417
Claymo Oil & Gas Co., Clayton, Mo.	632
Clifton & Wise, Sapulpa	127
Cline, A. W. Co., Okmulgee	681
Cline Oil Co., Wichita Falls, Texas	521
Clover, Marvin K., Tulsa	1,718
Cobleigh & Shipman, Bartlesville	491
Coe, R. W., Ardmore	1,703
Coe, R. W., Trustee, Ardmore	22,474
Cohen, Aaron, Baltimore, Md.	5,334
Cohn, M. M. & D., New York, N. Y.	90
Coker, J. M., Claremore	139
Cole Oil Co., Tulsa	82
Coline Oil Co., Okla. City	159,762
Collins, Ida M. & Ray M., Tulsa	827
Collins Oil Co., Vinita	3,609
Columbia Pet. Co., Okla. City	2,856
Comar Oil Co., St. Louis, Mo.	2,402,026
Commerce Pet. Co., Tulsa	293
Commercial Drilling Co., Tulsa	1,251
Compton, O. W., et al, Indepednece, Kans.	298
Congress Oil Co., Kansas City, Mo.	134
Commonwealth Oil Co., Warren, Pa.	1,105
Connelly, E. L., Tulsa	180
Connelly, E. L. et al, Tulsa	4,839
Connelly, G. W., Caney, Kansas	2,457
Connelly, W. C., Tulsa	2,204
Conner, B. C., Tulsa	17

Company and Location—	Barrels
Constantine, C., Pawhuska	1,071
Continental Oil Co., Bristow	5,926
Continental Oil & Ref. Co., Independence, Kas.	3,728
Cook, Geo. W., Lawton	3,196
Coombs Oil, Gas & Land Co., Bartlesville	1,137
Co-operative Oil Co., Ponca City	141
Cora Exploration Co., St. Louis	891
Corona Oil Co., Tulsa	7,663
Coronado Oil & Gas Co., Cleveland	4,347
Correne Oil Co., Tulsa	2,589
Cory, L. L., Fresno, Calif.	61
Cosden, J. S., Tulsa	12,306
Cosden Oil & Gas Co., Tulsa	628,232
Cowham, H. I., Independence, Kas.	238
Cowles, La Monte, Burlington, Iowa	414
Cox, Frank, Portland, Oregon	100
Cox, John W., Tulsa	15
Cozart Oil Co., Blackwell	4,266
Craig, D. F., Independence, Kans.	178
Crandall, Hector et al-Title Guarantee & Trust Co., Trustees, Tulsa	522
Crawford, J. W., Jr., Tulsa	2,555
Creekmore, Morrison & Wolfe, Tulsa	326
Cremse Oil Co., Bartlesville	156
Creo Oil Co., Tulsa	16,237
Crescent Oil Co., Bartlesville	804
Crews Estate Oil & Gas Prod., Covington	23,031
Criswell, Georgia B., Haskell	377
Critchlow, W. S., Ardmore	1,334
Crosbie, Davis, Sloan & Sturm, Tulsa	2,260
Crosbie, Gillespie Gasoline Plant, Tulsa	5,054
Cromwell Oil & Gas Co., Okmulgee	13,544
Crosbie, Sturm & Davis, Tulsa	3,166
Crump & Beard, Duncan	6,183
Cruce & Potter, Ardmore	1,697
Cruce-Smith-Cruce, Ardmore	3,955
Cudahy Oil Co., The, Cleveland, Ohio	28,995
Cumberland Oil & Gas Co., Muskogee	607
Cumberland Pet. Co., Cleveland, Ohio	4,939
Curtis & Aiken, Tulsa	1,353
Curtis, W. L. Co., Elmira, N. Y.	382
Curtis, W. L. Co. & F. M. Aiken Elmira, N. Y.	1,988
Cushing Gasoline Co., Tulsa	16,244
Custer Oil Co., Okmulgee	1,171
Czarina Oil Co., Ardmore	1,167
Daisy Belle Pet. Co., Ardmore	14,533
Dallas Company, The, Tulsa	7,502
Damon Oil Co., Tulsa	2,432
Dana Oil Co., Bartlesville	877
Davis, C. P., Bristow	4,702
Davis, Jos. D., Tulsa	462
Davis, L. R., Tulsa	1,552
Davis, R. D., Cleveland	911
Davis & Younger Oil Co., Okla. City	3,431
D. C. F. S. & Co., Ardmore	1,390
Dean, John, Estate, Guthrie	1,320
Deems, H. C., Tulsa	702
Deep Fork Oil Co., Marietta, Ohio	1,860
Deep Rock Oil & Ref. Co., Chicago, Ill.	56,657
Dekoma Dev. Co., Tulsa	444
Delokee Gas & Oil Co., Bartlesville	1,742
Delmar Oil Co., Bartlesville	128,758
Dennis, Hyer E., Boynton	27
Denver Prod. & Ref. Co., Okmulgee	20,107
De Soto Gasoline Co., Beaumont	1,132
De Vinna, M. A., Tulsa	353
Devonian Oil Co., Tulsa	75,018
Diamond, Harry H. Oil Co., Holdenville	778
Dick, John, Buffalo, N. Y.	155
Dickenson, W. O., Tulsa	1,675
Dickerson, O. W. Oil Co., Okla. City	873
Dierks, Fred H., Trustee, Kansas City, Mo.	3,431
Dixie Oil Co., Cement	6,429
Dixie Oil Co., Inc., Shreveport, La	632,487
Dock Oil & Gas Co., Bartlesville	716
Dolman, L. S., Walter H. Gant and S. W. Tyer, Ardmore	19,701
Dominion Oil Corp. of Oklahoma, Sand Springs	327
Donahue, W. J. & K. D., Bartlesville	137
Doris Oil & Gas Co., Tulsa	845
Douglass, Harvey, Attorney, Chelsea	359
Dover Oil Co., Bartlesville	757
Drew, Byron, Ardmore	171
D. & S. Oil Gas Co., Tulsa	1,129
Duffield, Lewis C., Tulsa	565
Duffield & Howard, Tulsa	3,581

(Continued on page 29)

Independent Gives Oklahoma Grades Boost

Waite Phillips Concern Posted 25 Cent Increase —Major Purchasers Expected to Follow

Tulsa, Okla., Feb. 13.—Waite Phillips Company, independent purchaser of approximately 3000 barrels of Oklahoma crude daily, posted the following prices on Bristow, Beggs, Okmulgee and Slick crude today: Below 30 gravity, $1.20; 30 to 32.9 gravity, $1.30; 33 to 35.9 gravity, $1.75; 36 to 38.9 gravity, $2.05; 39 gravity and above, $2.25. None of the major purchasers met this price, but action is expected soon.

Indicative of the general improvement in the crude oil market, field activity in both Oklahoma and Kansas continues to expand and operations in the two states more and more are reflecting the upward trend. Shut down wells scattered about in the two states that are outside the big development areas are being started up again and others are being cleaned out and put in readiness for tankage connections should sufficient production develop. These preparations, together with the increase in activity that is apparent in the proven sections, all is in anticipation of still higher crude prices.

Production in Oklahoma mounts steadily upward and likely will follow this trend which should be even more pronounced as the summer advances. Kansas as usual shows a decline but field work in the Sunflower state within the next month to six weeks should attain a new high mark as preparations are under way there to thouroughly test out portions of the western section to which attention has been attracted by the bringing in of important finds in Cowley, Russell, Sumner and Coffey counties. This area is in line for intensive development this spring and summer, without doubt.

The scramble for crude oil shows no signs of letting up. Although there are reports of higher premiums, the 50-cent bounty for high grade crude that Champlin Refining is paying in northern Oklahoma tops the official list of companies that are offering inducements to producers. Empire Petroleum, crude buyers for the Empire Companies, still has in effect its premium of 25 cent a barrel for oil in Kingwood and Bristow pools in north central Oklahoma and also is paying a 10 cent premium for oil it buys in the Hewitt and Graham pools in the southern part of the state. Shaffer Oil and Refining will pay a premium for its crude and Consolidated Pipe Line Company still seeks premium oil. The Rock Island is paying from 15 to 25 cents premium for crude in the Lawton-Duncan district supplied to the company by the American Pipe Line Company. Phillips Petroleum Company still furnishes crude to the Vacuum Oil Company for delivery at Texas City, Texas, and has been averaging around 3,300 barrels daily on this contract which is for Burbank oil. The Carter Oil Company, comparatively a recent entrant in the crude purchasing field, still is after the oil and just recently completed a tank car shipment of 52 cars of crude to the company's plant at Cartoco, Oklahoma.

Of recent days there has been some talk of the Ohio Oil Company's entrance into the Mid-Continent field as a purchaser of crude oil. While nothing official has come of this talk close students of the situation are not inclined to seriously consider it right at this time. True, the company through subsidiaries, has built up its production in the Mid-Continent to a sizeable daily output but this section of the United States is quite a ways from Ohio's main pipe line system extending from the Rocky Mountain region to the Middle West and North. The company only recently entered the Oklahoma field as a producer through the Mid-Kansas Oil and Gas Company, also operating in Kansas and in Texas.

Payment of premiums in Kansas always has been kept on a conservative basis and the present does not constitute a deviation from this rule. Late reports are that the White Eagle Oil and Refining Company, one of the principal independent buyers of crude oil in the state, is willing to pay as much as 10 cents above the posted schedule for oil from certain pools but this practice is said not to extend throughout the whole of the company's pipe line system. Aside from small refining interests there, no other premiums of moment are officially recorded.

Both the Prairie and Sinclair are continuing their aggressive crude buying policy in all fields to which they are connected. The falling off in the Prairie's crude shipments north and east during January is attributed to the season of the year and not especially to any letting up in the company's business in those sections. In fact, a number of refiners in the Appalachain region are known to have made preliminary arrangements to handle more Mid-Continent crude than heretofore on the expectation of the continuation of the policy of unwillingness on the part of Pennsylvania producers to turn loose of any great amount of their tanked oil, these producers anticipating still higher prices for their output. It is understood that the Prairie's shipments for February are holding up nicely and considered on a monthly average will stack up with previous months in the amount of business handled. Sinclair's deliveries also are understood to be holding up right along with indications of an increase.

Refiners in Oklahoma and Kansas are as anxious as ever to get hold of new crude connections and several are extending their gathering facilities to permit the speeding up of refinery operations. The Barnsdall Refining is preparing to increase runs to its plant at Barnsdall, Oklahoma, and likely will seek new connections in that section with the prospect of paying a premium to get a sufficient amount of additional oil. Champlin Refining is reported to be seriously considering going into the Burbank pool in the Osage. It this is decided upon undoubtedly Champlin will carry along its premium paying policy in effect wherever else the company is soliciting connections. It is presumed that Champlin will ship out crude bought in the Burbank in tank cars.

Marland's recent deal with Standard and also with the Morgan interests has given rise to more talk about the company's policy of expansion. This time it is rumored that Marland may acquire Pennock Oil through an exchange of stock on the basis of two and one-half of Pennock to one of Marland. Negotiations are largely from the Marland side, it is understood.

Another subject for talk here is the plan understood to be now underway for the consolidation of the Largo Petroleum Corporation, recently organized by Cosden-Whitney interests for exploitation work in Venezuela, South America, with one of the larger British controlled companies operating in that same territory. Arrangements already have been made, it is learned here, by Largo Petroleum for the moving in of rigs and other drilling equipment for its South American work, locations already having been made on its concessions under the waters of Lake Maracaibo. This would appear to discountenance the consolidation report.

All in all, there is a growing feeling of real optimism among all branches of the industry and particularly among producers who believe they are in for a season of prosperity—a season that has been a long time coming and one that by all accounts certainly has been over due for a year or so.

CONDENSED U. S. PRODUCTION

The daily average production of the fields of the United States for the past week follows:

	Barrels
California	681,750
Mid-Continent (Oklahoma, Kansas and North Texas)	729,895
Oklahoma	406,325
Texas	366,560
Wyoming-Montana	140,000
Arkansas	114,405
Eastern States	104,000
Kansas	67,770
Louisiana	58,610
Total	1,939,420

Sinclair Starts Work On New Texas Pipe Line

Fort Worth, Texas, Feb. 11.—The Sinclair Pipe Line Company has started constructed work on an extension line from its main pump station at Graford in upper part of Palo Pinto county to the Sinclair Oil & Gas Company's producing properties on the L. P. Moran and J. Kisinger leases in the southeast corner of Young county. Four inch pipe will be used in this line, and it will be about 17 miles in length, making a second gathering line in Young county for the Sinclair Pipe Line Company. This second line was made necessary to avoid crossing the Brazos River, as would be necessary if the South Ben-Bunger field lines of the Sinclair Company were extended over to the above leases, which are now served by the Prairie Pipe Line Company. A pump station is to be erected on the Moran lease.

CRUDE OIL PRICE QUOTATIONS FOR ALL FIELDS

Changes

Feb. 13.—Effective today Corning crude was advanced 15 cents by the Joseph Seep Purchasing Agency. It is now posted at $1.95 per barrel.

Feb. 13.—All grades of Mid-Continent crude were advanced 25 cents today by the Waite-Phillips Petroleum Company. The new prices are as follows: Below 30 gravity, $1.20; 30 to 32.9 gravity, $1.40; 33 to 35.9 gravity, $1.75; 36 to 38.9 gravity, $2.05 and 39 gravity and above, $2.25.

Current Postings

EASTERN STATES

	Feb. 16 1924	Feb. 17 1923
New York Transit	$4.50	$4.00
Bradford (Pa.)	4.50	4.00
Other Pennsylvania grades	4.00	3.75
Cabel	2.05	2.61
Ragland	1.00	1.10
Corning	1.95	2.15
Somerset, heavy	2.15	2.40
Somerset, light	2.15	2.65

CENTRAL STATES

Illinois	$1.92	$2.28
Indiana	1.93	2.28
North Lima	1.13	2.48
South Lima	1.13	2.48
Plymouth	1.30	1.65
Lodi	1.80	...
Princeton	1.92	2.28
Waterloo	1.40	1.75
Wooster	2.00	2.40
Western Kentucky, light	2.21	...
Western Kentucky, heavy	2.01	...

MID-CONTINENT

(Prairie Prices posted Feb. 2, 1924)

Below 30 gravity	$1.15	$ ...
30 to 32.9 gravity	1.30	...
33 to 35.9 gravity	1.60	...
36 to 38.9 gravity	1.85	...
39 gravity and above	2.00	...

(Magnolia prices 2-2-24)

Below 28 gravity	$1.00	$ ...
28 to 30.9 gravity	1.15	...
31 to 32.9 gravity	1.30	...
33 to 35.9 gravity	1.60	...
36 to 38.9 gravity	1.85	...
39 gravity and above	2.00	...

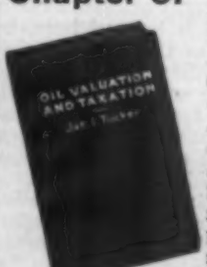
NORTH CENTRAL TEXAS

Corsicana (light) (Magnolia)	$1.85	$ ...
Corsicana (heavy)	1.00	.85
Thrall	1.00	1.85
Mexia	1.85	2.10
Currie	2.00	2.50
Rockdale-Minerva	1.60	2.00

SOUTH TEXAS

Mirando	.80	...

Chapter 9.



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Los Angeles, Calif., Feb. 9.—Representatives of the Japanese Navy have been in Los Angeles and California attempting to make contracts for crude and fuel oil. Their offers did not exceed 15 cents premium and so far as is known no contracts have been made.

SOMERSET

	Feb. 16 1924	Feb. 17 1923
Below 33 gravity	$1.15	$ ...
33 to 35.9 gravity	1.40	...
36 to 38.9 gravity	1.60	...
39 gravity and above	1.75	...

GULF COAST

Grade "A"	$1.65	$ ...
Grade "B" at Blue Ridge, Hull and Pierce Junction	1.40	1.05

Committee Appointed to Work Out Safety Program

Tulsa, Okla., Feb. 9.—A committee to work out the details for instituting safety work among oil company employes in Oklahoma in line with the recently organized safety work through the Mid-Continent Oil and Gas Association was appointed at a meeting of the Oklahoma division held here February 8. The committee consists of H. W. Boggess, safety director in Oklahoma; J. D. Iams of the Gypsy Oil Company; J. A. Wolfe of the Prairie Oil and Gas Company; R. E. Miller of Marland Oil Company; and G. H. Hannum of Cosden Oil and Gas Company.

Humphreys Stockholders To Meet in New York

Mexia, Texas, Feb. 12.—A meeting of the stockholders of the Humphreys Oil Company is to be held here Saturday, March 1, for the purpose of voting on a resolution adopted at a called session of the directors in New York City February 7, whereby the dissolution of the Humphreys Oil Company and surrender of its franchise is recommended. This move is interpreted as meaning that the Pure Oil Company is ready to pay off the balance of the three payments due by July 1, 1924, in its purchase of the various holdings of the Humphreys interests at Mexia, Corsicana-Powell and other sections of the Southwest, while in the meantime the Pure Oil Company just recently floated a $15,000,000 bond issue.

Los Angeles, Calif., Feb. 9. — The Petroleum Midway is drilling below 2400 feet in its wildcat on the Carmenita structure east of Norwalk and and southeast of Santa Fe Springs where the company holds under lease about 1100 acres of land. Practically the entire section is under lease to the larger oil companies, the Standard holding about 200 acres, the Shell about 100 acres, General Petroleum and Getty approximately the same while the Superior Oil Company has 50 acres under lease.

LOUISIANA-ARKANSAS

Caddo

38 gravity and above	$1.70	$ ...
35 to 37.9 gravity	1.60	...
32 to 34.9 gravity	1.50	...
Below 32 gravity	1.35	...

Homer

35 gravity and above	$1.70	$ ...
33 to 34.9 gravity	1.60	...
31 to 32.9 gravity	1.50	...
Below 31 gravity	1.35	...

Haynesville

33 gravity and above	1.60	...
Below 33 gravity	1.50	...

Bull Bayou

38 gravity and above	$1.65	$1.90
35 gravity to 37.9 gravity	1.50	1.80
32 to 34.9 gravity	1.35	1.75
De Soto crude	1.70	2.10
Crichton	1.50	1.75
Bellevue	1.55	1.25
Jennings	1.65	1.50
Vinton	1.65	1.50
Edgerly crude	1.65	1.50

Smackover

26 gravity and above	1.35	...
25 to 25.9 gravity	1.20	...
24 to 24.9 gravity	1.10	...
Below 24 gravity	1.00	...

El Dorado

33 gravity and above	1.70	...
Below 33 gravity	1.60	...
El Dorado East Field (Calion)	1.00	...

Stephens District
(Atlantic)

(Posted by Atlantic Oil Company 1.10-24)

28 gravity and above 60 degrees	$1.20	$ ...
26 to 27.9 gravity at 60 degrees	1.15	...
23 to 25.9 gravity at 60 degrees	1.00	...
Below 23 gravity at 60 degrees	.80	...

WYOMING-MONTANA

Wyoming

(Posted 2-5-24)

Elk Basin	$1.80	$2.00
Grass Creek	1.80	2.00
Rock Creek	1.55	1.65
Lance Creek	1.75	2.00
Mule Creek	.95	1.40
Big Muddy	1.35	1.55
Salt Creek	1.45	1.55
Osage	1.50	2.00
Hamilton Dome	1.40	...
Pilot Butte	1.10	...
Landers	1.10	1.20
Torchlight-Greybull	1.40	2.00

Montana

Sunburst	.95	...
Cat Creek	1.70	2.00

CALIFORNIA

(Crude Oil Prices at the Well 2-6-24)

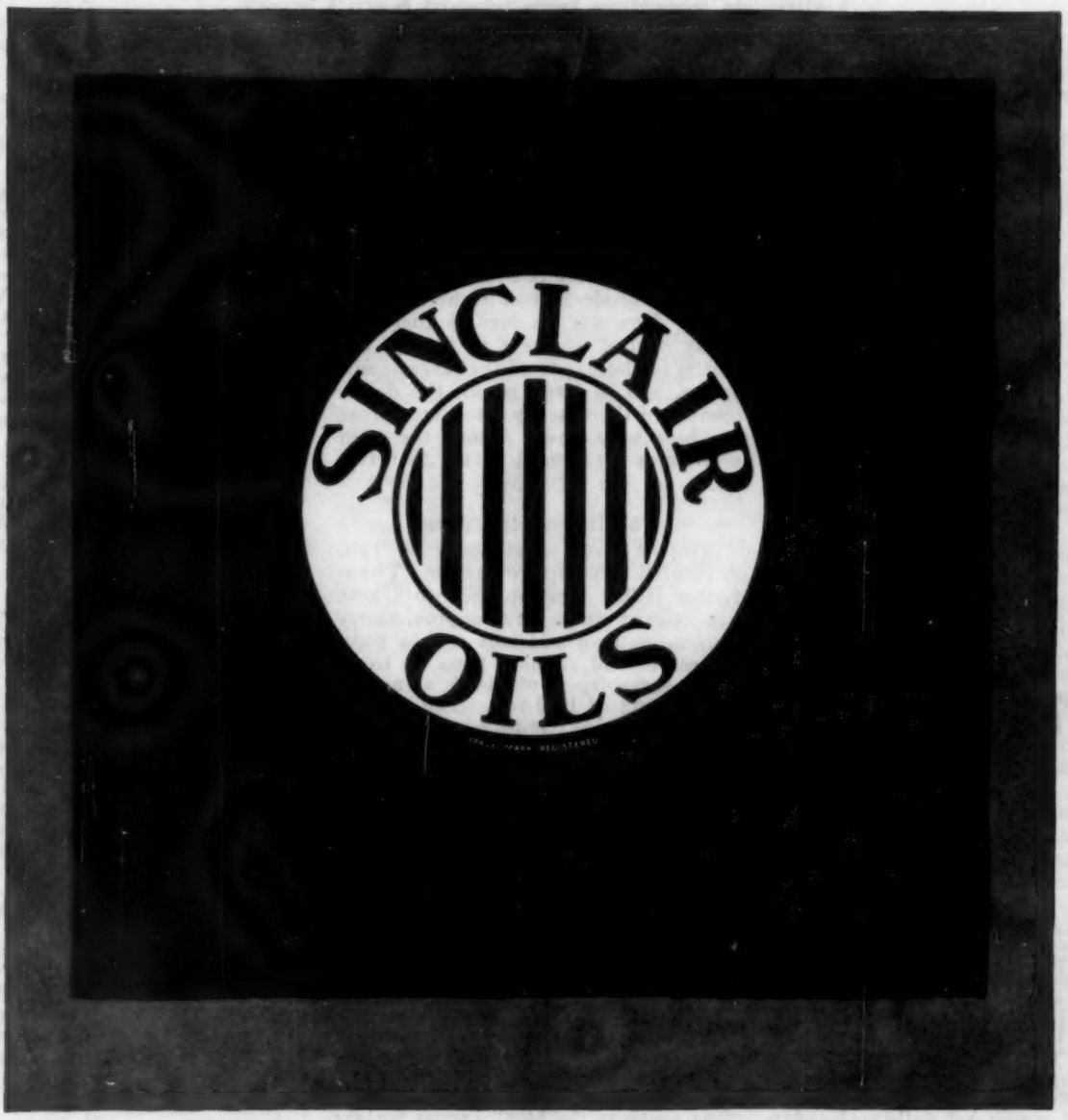
Los Angeles and Orange Counties

14 to 19.9 gravity	$1.00	$ .60
20 to 20.9 gravity	1.01	.62
21 to 21.9 gravity	1.02	.65
22 to 22.9 gravity	1.03	.70
23 to 23.9 gravity	1.05	.75
24 to 24.9 gravity	1.07	.80
25 to 25.9 gravity	1.10	.85
26 to 26.9 gravity	1.13	.90
27 to 27.9 gravity	1.16	.95
28 to 28.9 gravity	1.19	1.00
29 to 29.9 gravity	1.22	1.05
30 to 30.9 gravity	1.25	1.11
31 to 31.9 gravity	1.28	1.17
32 to 32.9 gravity	1.31	1.24
33 to 33.9 gravity	1.34	1.31
34 to 34.9 gravity	1.37	1.38
35 gravity and above	1.40	1.45
Fuel Oil	1.40	...

CANADIAN CRUDE

*Petrolia	$2.53	$2.78
*Oil Springs	2.60	2.85

*Plus 2½ cents bounty.



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SINCLAIR OILS

Say you saw it in The Oil Weekly

With Flush Gone Old Fields Again to Front

California operators turn toward Kern County as daily output begins to show big decrease

By K. C. WALLACE,
Los Angeles, California

WITH the flush production of oil in the southern part of the state declining fast, the interest of all producers naturally begins to turn to Kern county. Kern county has always been the basic county in the oil industry. Recent developments in this county in discoveries of new fields and extension of the old fields, indicate that Kern county still is, and will be for years, the largest potential oil field for steady production in the state of California. The large producing companies are opening up their closed production and are taking on new lands.

The fact that Kern county has over half the number of wells in the state of California, and the same time, that the oil resources have only been scratched, bears out the above statement that Kern County is the king of all counties when it comes to long lived, steady production.

The United States government, for the last 13 years, has withdrawn all government lands in Kern county from oil development, and included in these lands was about one-half of the proven acreage in Kern county. It is only with the passing of the oil land leasing bill about two years ago that it was possible to renew development on this withdrawn government land. Most of the patented oil land long ago passed into the hands of the larger oil companies.

There is not, never has been, and never will be, any frenzied intensive town-lot development in Kern county oil fields, as the land is to a large extent held in large tracts, and a well to five acres is the rule rather than the exception. The range of production of oil in Kern county is such that oil is being produced from 11 degrees gravity up to 44 degrees, and wells are producing from 100 to 4000 feet deep. There has been very little deep drilling in the northern fields in the past, as operators have been content to produce from the known proven sands. Plans are under way for deep tests to be made in the heart of the proven structures. Also, the drilling of deep tests on the extension of these proven structures has, in the last two years, proven to be very successful on lands that were heretofore figured as unproductive.

Values in Kern county for oil lands are in keeping with the chances for profit from the potential production, and royalties are reasonable, and lease conditions as to drilling give the operator plenty of time to plan his drilling over a series of years. When it comes to government lands, Uncle Sam will give the oil operator the exclusive right to prospect for two years for oil and gas at a five per cent royalty. The government is the most reasonable land owner in the world as to extension of time and general lease conditions. Kern county looks forward to 1924 as being the banner year in opening up new oil fields on government lands.

A briew review of the extensions of the old fields and the discovery of new fields in Kern county in the last two years shows as many new areas opened up for oil production as in the southern fields. However, as land in these recently opened up areas to a large extent is in the hands of the larger companies, and in large tracts, the development of these newly discovered areas has been very slow. Among the main new areas discovered in the last two years are the following:

The Hovey Hills Area

Situated three miles south of Taft. A parallel structure to the old "Twenty-five Hill." Development work here has opened up a field approximately four miles long and half a mile wide, where fuel oil running from 14 to 20 degrees gravity is obtained, at an average depth of 1200 feet. The average for wells in this territory is around 100 barrels per day. There is no well in the Hovey Hills that shows any top water, and so far no wells have been drilled through the oil into bottom water. The oil bearing formations average 500 feet in thickness in this territory. The average cost of a completed well in the Hoovey Hills is around $10,000, and the estimated life of a well here is over 20 years. There are 12 strings of cable tools running at the present time on new development in this area. The main operators in this new territory are the Berry Interests, the Midway Oil Company, the Formax Oil Company, the Kendon Petroleum Company, the Bell-Evans Oil Company, and the Blair Interests. This field presents the best chances for the small operator to get shallow, long-lived production.

"Thirty-Six Hill"

This new development lies three miles northeast of Taft, on the edge of the Buena Vista Naval Reserve. In November, 1922, the Midlands Oilfileds Company, on a government permit on the Southeast quarter of Section 24-31-23, a mile from proven production, at 3175 feet, brought in a 1700 barrel well of 27 gravity oil. This well started active development in this area, and the Pacific Oil Company, the Balboa Oil Company, and the North American brought in several wells. At the present time there are about 12 producing wells in this area, with about six wells drilling. In the latter part of November, 1923, the Midlands Oilfields Company, on Section 34-31-24, a mile from proven production on a government permit, again brought in a 2000 barrel gusher. There is very little chance for the small operator to get into this area at the present time, as most of the land is in the Naval Reserve, or in the hands of the Pacific Oil Company and other large operators.

The Northwest Extension of the Buena Vista Hills

On Section 6-31-23, the Western Oilfields Company, about six months ago, brought in at 2900 feet a 150 barrel well of 24 gravity. This well was on government permit land, several miles from any proven territory. Additional wells are now being drilled in this section, and it was just a mile south of this section that the United States government recently leased, on competitive bids, land in the Buena Vista Naval Reserve, calling for 65 per cent royalty on all wells over 100 barrels per day. This section of land adjoins both the Elk Hills Naval Reserve and the Buena Vista Naval Reserve, and outside of a few government permits, offers very little chance for the small operator to obtain acreage.

West End of the Elk Hills Structure

The latter part of 1921, the Transport Oil Company, on a wildcat well drilled on the west end of Elk Hills on a government permit, brought in a 25,000,000 ft. gas well at 2400 feet. This same company at the present time, with others, are starting a new well on the southeast corner of section 14-30-22, offsetting the Elk Hills Naval Reserve. The eyes of oil operators are watching with interest the outcome of this new well, as it is located on the axis of the Elk Hills Anticline, and from a geological standpoint, is as near a perfect test of the western end of the Elk Hills structure as could be obtained. About half of the land adjoining the west end of the Elk Hills Naval Reserve is in the hands of the Pacific Oil Company, the balance being held in government permits. This end of the Elk Hills offers the only opportunity for the independent oil operator to acquire land on the Elk Hills structure.

Wheeler Ridge Territory

The discvovery and the later development of the Wheeler Ridge territory by the Standard Oil Company is well known to oil men, and together with the new discovery of oil at Comanche Point by the Globe Petroleum Company and the drilling of two test wells by the General Petroleum Company a few miles north of the Wheeler Ridge structure, shows the possibilities of opening up a large acreage in the southern part of San Joaquin Valley, adjoining the Tehapachi Mountains, to oil development.

The Latest and Most Recent Development

In Kern County was on the 11th day of September, 1923, by the Transport Oil Company, in the southeast quarter of the southeast quarter of section 4-11-23, on the extension of the Maricopa Flat, one-half mile from proven production. This company brought in a 1500 barrel well at 3909 feet, making 26 gravity oil, through a half-inch flow nipple, with 500 pounds pressure on the

(Continued on page 47)

Corrective Work for Aiding Production

Increased efficiency of operation gives good results in the Kern River district

*By George O. Suman**

IT IS the purpose of this article to show how and why over a million dollars has been spent by various operators in the Kern River field since 1915, in an effort to shut off water flooding the oil measures and to state results accomplished by this somewhat large expenditure of money, material and labor.

History of Field

Since drilling first started at the Kern River Field in 1899, there has been considerable water produced. The central part of the field was practically drilled up by 1912, as this was the most productive area. Drilling around the edges of the field has been irregular, depending very much on the price of oil. The records show few wells in the field with an initial production over 200 barrels net oil per day. Cable tools have always been used for drilling. There are now 2170 producing wells.

In the early days the consequences arising from the failure to shut off water were not known and the methods of coping with troubles of this nature were not developed. Water strings were not cemented at that time and mudding was unheard of. Many other common procedures of today were not in use. The carrying of casing through the unconsolidated formations was difficult as the field men were mostly from the eastern fields where the formations are harder and the calf wheel had not yet appeared.

Many wells were completed without shutting off the top water and some wells drilled into bottom water were not satisfactorily plugged back. Until about 1908 few water strings were cemented. In working on completed wells to correct their watered condition, various schemes were tried. Seed bags, rosin and beans, and special kinds of packers were tried and at times gave temporary relief.

Air compressors made their appearance about 1909. It was thought that by using air the water supply might be exhausted or greatly diminished. About 90 wells were put on air. Most of the wells on air produced from 1200 to 4000 barrels of water per day. The first effect of the new method of production was to greatly increase the oil production. However, this condition was a temporary one. About 1915, the operators realized that some other procedure should be adopted. The rapid decline in oil production and the heavy cost of production were becoming serious considerations. Accordingly, compressor plants were rapidly dismantled and an active campaign of corrective work started.

Planning for Corrective Work

Considerable work was necessary in order to determine which wells were the offenders. The procedure varied with the various operators.

The drilling history and all subsequent work done on the wells were gone over thoroughly by the geological department and the local superintendents. The early production records of the wells were investigated. Data on some wells were very meager. However, all available data were collected and considered.

Certain data were obtained from field men who had worked on or had observed certain wells in the early days of the field. Some information of value was obtained in this way, especially concerning certain old suspended wells about which little was known.

Many sections were set up to study wells as to their plane of top water shut-off and depth.

Some peg models were constructed in order to gain a more thorough understanding of groups of wells in regard to their plane of top water shut-off and depth.

Fluid level data were collected to determine whether some wells had high fluid levels and were possible offenders.

During the last three years about twelve dye tests were made. The dye was mixed with a small amount of water at the surface and run down through the tubing. None of the tests were successful. In no case did the dye appear in adjacent wells.

A successful dye test is reported to have been made on Alma Jr., No 2, in 1905. The dye in this case appeared shortly after it was put in, in a Rasmussen well.

In mudding some wells the mud appeared in adjacent wells showing that there was a direct connection between the wells. However in no case did dye appear in an adjacent well.

Both top and bottom water are fresh and do not differ greatly in chemical analysis. Water wells supply the domestic and field needs. On the eastern side of the field due to the absence of top water the wells are drilled through the oil measures into bottom water to supply domestic and field needs.

A number of water analyses were taken to determine whether or not wells were offenders or were producing water, which had migrated to them. A change in chemical analysis due to close association with oil was looked for. Data of this nature have been found of some value.

Methods of Shutting Off Water

(a) Top Water—In shutting off the top water the usual method was to run in a new string of casing and cement it off. Sometimes due to the low plane of shut-off the oil sands above the point of landing were thoroughly mudded, often under a pressure of two hundred pounds, before cementing the water string. If, for any reason, there was any old sidetracked casing near the proposed shut off, it was shot with 3 by 10-inch 80 per cent. gelatine to insure that the cement would go out against the formation and not be hindered by old casing. Usually, however, before cementing it was possible to run the tools in this old casing before or after running in the new water string and thoroughly rip and drive it down.

This was the usual way of doing the work. There were other methods tried, but this was the usual procedure.

(b) Bottom Water—In shutting off bottom water there were two methods used.

One method was devised due to a desire to mud under pressure the bottom of the hole. To do this one of two procedures was generally adopted. After cleaning out the hole to the bottom and perforating or ripping it some, if necessary, a 3-inch string of tubing with a packer on the bottom was run to a point opposite a clay formation near the bottom and the bottom of the hole was mudded under pressure and left filled with thick and heavy mud or other material such as cement, brea, or brick. In this procedure there was always the possibility that some of the mudladen fluid would come up alongside the outside of the oil string or past the packer into the upper oil sands and greatly diminish the future oil production from the well. To avoid this danger another plan was to cement a blank string of casing afterwards to be used as the oil string with a small amount of cement in a clay formation near the bottom of the hole and of course well out of the bottom water zone. Any old sidetracked casing or any casing sidetracked was shot or ripped and driven down and sometimes both before cementing. After cementing, the hole is cleaned out to bottom and a shot put in in case it is felt that the new hole is off from the old hole. The tubing was then run in and the bottom of the hole mudded, usually under 200-pound pressure. It can readily be seen that the danger of mudding up the oil sands above the bottom of the hole is lessened by using this method.

The other method was to clean out the hole to the bottom and after ripping and driving down and shooting any old casing in the hole to start plugging back with cement or clay, brick, and brea. In the first good clay formation, lead wool is thoroughly tamped in and plugging back continued and generally ended with cement in a clay formation. The ripping and driving down and shooting were done at intervals ahead of the plugging as the hole would sand up so badly in most cases if it were all done at once that it would be difficult, if not impossible, to properly plug back.

(c) Abandoning — There are two methods used in abandoning wells.

One method is to clean out to the bottom often carrying a new string of casing. Tubing is then run in and the hole mudded under a pressure of 200 pounds. The hole is then plugged back, generally with cement and sometimes with clay, brick or brea with three to five feet of lead wool at certain clay formations. The string of casing being carried is gradually pulled back as the work progresses. Any old

*Reprinted from the "Record," publication of the Associated Oil Company.

casing left in the hole below the point at which plugging is discontinued is shot or ripped and driven down as necessary. Plugging is stopped near the plane of upper water shut-off. Generally an old string of casing is at about the right depth or, if not, is ripped and driven down up to the correct depth. The job is finished with ten to twenty feet of cement extending into this string of casing.

The other method is to follow out the above procedure except as to filling up. The string being carried is pulled out and the hole is left filled with a thick and heavy mud. As plugging back with cement and other materials takes considerable time it can readily be seen that the operation is considerably shortened when after mudding under pressure the string being carried is pulled out and the hole left filled with mud. The ripping and shooting necessary is done on the way down in cleaning out to the original depth.

(d) **Test for Water Shut-off**—Tests for top water shut-off are generally made and most satisfactorily made by pulling the oil string. Usually all the oil string can not be pulled. However, it is pulled for a distance below the shoe of the water string so that a bridge of clay and brick, or cement of from twenty-five to fifty feet can be put in against the formation to within about five feet of the shoe of the water string. A baling test is then made to determine the effectiveness of the water shut-off. Tests of this nature are often made on wells when re-drilling a bad oil string as well as being specially done to find offenders.

Tests are sometimes made by bridging as above inside of the perforated oil string and by running in packers. However, the method noted above while more expensive is the most satisfactory.

Work Done and Results

The properties in and adjacent to the flooded area are included in sections 4 and 5, 29-28 and Sections 31, 32 and 33, 28-28. In this area, since 1915, corrective work has been done as follows:

	Wells
Tested for water shut-off	19
Plugged off bottom water	43
Shut-off top water	35
Abandoned	29
Total	126

The total number of producing wells in this area is 892.

A comparison of the water production figures of 1913 and 1922 shows results as follows:

1. A reduction in the total monthly water production of 1,575,800 barrels, that is, from 4,665,300 barrels to 3,089,500 barrels, a reduction of 34 per cent.

2. A reduction in the water production per well of 64 barrels, that is, from 164 barrels to 100 barrels, a reduction of 39 per cent.

3. The fact that in general the properties worked on have shown a reduction in water production.

4. The fact that in general the properties not worked on have shown an increase in water production.

A study of the oil production curves of properties in and adjacent to the flooded area shows that there has been a decided decrease in the rate of decline of production that can only be attributed to the beneficial results of the work done. Some properties have shown practically no decline in production during the last few years under the same operating conditions.

Perhaps one of the best examples of this is shown by a production graph which has been compiled by the San Joaquin Division of the Associated Oil Company. The production per well per day curve has shown no tendency to go below 12.75 barrels since October 1919, a period of over three years. The temporary abnormal decline the first few months after the shut down in the later part of 1921 is not considered.

The increase in production due to no decline has been 768,200 barrels net oil to January, 1923. The natural decline curve shows the rate at which the Division was declining. The rise in production above the 12.75 average since June 1922 should be credited to increased efficiency in operations. This increase in production to January, 1923, has been 63,359 barrels net oil. The increase in production was obtained by using the following methods.

1. Using the Halliday perforation cleaner.
2. Hydraulicking sanded wells with warm oil.
3. Flooding individual wells with oil.
4. Changing the pumping stroke.

Conclusion

Although the water production was considerably reduced it was not reduced as much as was hoped for. However, the increase in oil production has shown that the work was well worth while. Increased efficiency in operations has given very good results.

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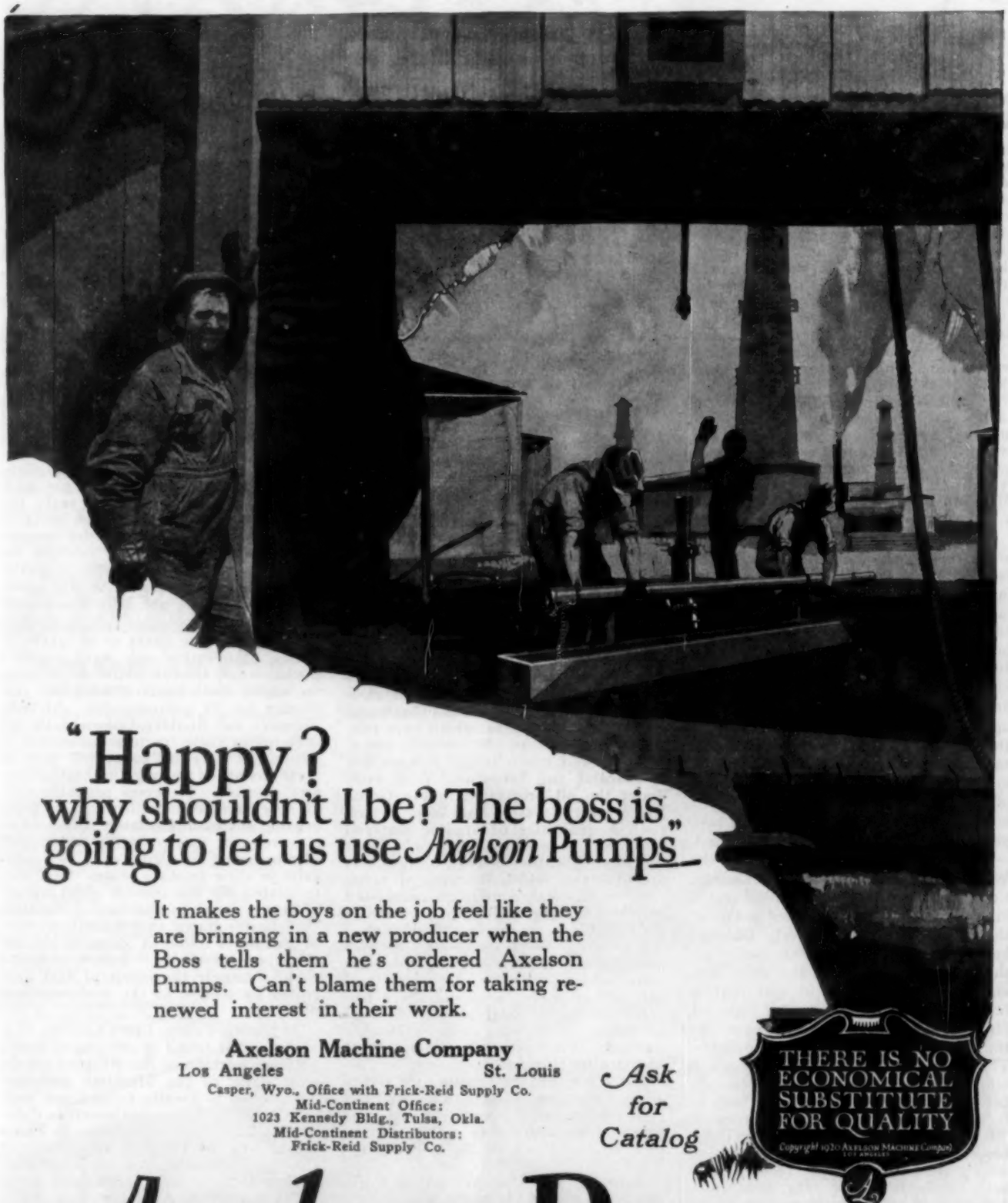

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Factors in Rocky Mountain Oil Reserves

Some ideas regarding the accumulation of oil in various Mountain States sections

By T. S. Harrison •
Denver, Colorado

NATURE'S methods in the manufacture and accumulation of petroleum seem to the writer not to have been confined to a single process or series of processes. Heat and time, for example, are doubtless important factors in the changing of organic matter to petroleum products. The possible combinations of the various agencies are innumerable, and accordingly the petroleum combinations derived from any given organic shale may be without number. The amount and character of overburden affect the amount of heat and its conservation. One may reasonably imagine that deep within the earth processes analogous to those of the pressure still may be active. Heat sufficient to increase the carbon ratio beyond the danger point may be generated and yet, because the evaporated gases cannot escape, redistillation may create a commercial product. A light oil, supposed to be the result of filtration through shales, may in fact be a product of cracking.

Faults and fissures, which usually are associated with the folding of rock strata, are most important phenomena in connection with oil and gas accumulation. Indeed, the writer has come to believe them necessary, for without faults gas may not be displaced by oil. In sharp folds the oil, if not in the crest of the structure, may be beyond drilling depths, but faults often furnish avenues up which petroleum may migrate to shallower sand beds. In the absence of sands it may reach the surface and be lost. If fissures are open, the migrating oil may retain its original condition; if minute, some fractionation will take place, heavier parts being left behind.

In connection with a study of the White River dome, Rio Blanco County, Colorado, the writer became interested in some remarkably saturated sands of the upper Wasatch (Eocene). Gas had been developed in sands 2000 feet below the top of the Wasatch, the wells having a capacity of two to four million feet, while one well showed a little oil. Heavily oil-saturated sands, near the top of the Wasatch, flanked the dome. The Lewis marine shale (Cretaceous), which occurs between the Mesaverde below and the Wasatch above, both of fresh water origin, is locally missing. Thin beds of oil shales, similar to those found in the Green River formation which once spread over the dome, are associated with these saturated sands. Contrary to expectation, analysis of the oil and gas from the well and of the saturated sand indicated no analogy between them. The Smith-Emery Company reported the gas to be 100 per cent methane—the first sample of pure methane they had ever received. Dr. Albert Lowe, of Denver, reported no similarity between the two oils, for with similar laboratory methods and conditions he obtained the following results:

	Oil from Sand Per Cent	Oil from Well Per Cent
Gasoline	12.7	5.2
Kerosene	20.7	50
Heavy oils	50	43.1
Coke	16.6	1.7
	100	100

The oil recovered from the sand was at the rate of 12 gallons to the ton. The well oil before being heated gave no odor. It may have been a coal tar product, since the Wasatch locally contains carbonaceous shale, while, similarly, the methane gas may have been a product of an old Wasatch swamp and not an associate of petroleum.

It may be noted that the saturated sands were high in gasoline, notwithstanding the fact that the samples were taken from the surface. Several analyses of similar sands from other parts of the oil shale region, which have subsequently come to the writer's attention, showed much larger percentages of gasoline and kerosene. With little doubt the oil originated in the Green River and Wasatch oil shales, which contain quantities of organic material which has been called kerogen.[1] From it, upon application of heat, oil products are obtained, which, because of variation in physical conditions associated with the heating, yields products which are variable in character and amount.

According to Winchester,[2] fissures containing a variety of solid hydrocarbons, notably gilsonite, elaterite, albertite, tabbyite, etc., here and there traverse the Green River shales. Several of these veins have been profitably worked. Winchester also reports west of Petrolite Hills,[3] in northwestern Colorado, a fracture zone cutting the Green River formation, filled with a very light yellowish-brown hydrocarbon (specific gravity 1.06) which does not answer the description of any of the ordinary asphaltites.

Recently the Ute Petroleum Company drilling in a much faulted and folded portion of the Uinta Basin, eastern Utah, in a series above the Green River oil shales, "continuously" found showings of oil, but no commercial accumulation. At one point a rubbery, residuary, asphaltic material was encountered.

At Hill Creek, Sec. 32, T. 42 S., R. 19 E., also in the Uinta Basin, the Utah Oil Company, drilling on a local dome, found oil in several sands but all contained water. The upper sands of the Wasatch are exposed and show oil saturation. This well started too low in the series to be a proper test of the oil possibilities in structures associated with the oil shales, while the Ute Company well was drilled in beds too far above the main oil shale body.

In high hills west of the road, near Piceance Creek between Rifle and Meeker, Rio Blanco County, Colorado, is exposed a series of upper Wasatch sands and shales, aggregrating fully 800 feet, in which all the sands are highly saturated. So saturated is the sand that it is tough. One may drive a hole through a fragment of it without its being fractured, but application of heat liberating the oil permits the sand grains to fall apart. A well drilled some years ago back of the outcrop pierced the series and found only "showings" of oil. Unlike some California experience, the oil has not such residuary character that it seals the sand at outcrop and it is high in kerosene and gasoline. Under the circumstances the writer cannot account for their presence. Is it possible that the oil is yet in a potential state—the gasoline and kerosene not fully developed?

In several instances oil has been found in fracture zones or in layers of shales. Movement may have supplied the necessary heat to distill the oil from the shales and open fractures, the reservoirs for its accumulation. At both Florence and Boulder, Colorado, the oil is found in shale fracture zones, not in sands. It may be suggested that in these instances no large gathering area was possible. It seems probable that oil may have been distilled largely from organic shales immediately adjacent to a movement; that remote from an area of movement the shales may be practically in their primary state. It is also suggested that the amount of oil formed is proportional to the heat generated. Winchester states[4] that a small amount of free oil is found in joints of the undisturbed oil shales. This distillation may be largely the result of heat generated by weight of the rock overburden.

At Spring Valley, Uinta County, Wyoming, oil is found in the Aspen shales (Mowry horizon of the Benton) on the west flank of the Meridian anticline. The region is greatly faulted and folded. At Rangely, in northwestern Colorado, oil is found in fractures in Pierre shales. In the Plunkett field, Fremont County, Wyoming, on the northward plunge of the greatly faulted and sharply folded Popo Agie anticline, oil is found in the Mowry shales. This is also true near Bonanza Springs, Bonanza anticline, Big Horn County, Wyoming. At the outcrop of the Mowry on this sharply folded structure, oil seeps from over 100 feet of beds. Adjacent sands in all these fields, are water-bearing and without doubt the shales in contact with the sands also contain water. Washburne[5] in his paper on the Florence field has discussed very convincingly the influence of water in the

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•Reprinted from Bulletin of the American Association of Petroleum Geologists.

[1]Cunningham Craig, Jour. Inst. Petrol. Tech., June, 1916, Vol. II, No. 8.

[2]Dean E. Winchester, "Oil Shale of Uinta Basin, Utah," U. S. Geol. Survey, Bull. 691, p. 49, 1918.

[3]Ibid.

[4]Op. cit.

[5]Chester W. Washburne, "Florence Oil Field," U. S. Geol. Survey, Bull. 381-d, 1908.

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shales on the concentration of oil in fissures.

The Mowry shales have been suggested as the source of the oil of the Frontier sand series, and this origin the writer is inclined to accept in part. The whole series of shales below the Frontier and above the Dakota is highly bituminous. The Frontier sands are the most important produers of Salt Creek, of Big Muddy, of Grass Creek, of Elk Basin, etc. The Mowry carries fish scales and fish bones everywhere in Wyoming. It has been suggested that the Carlile, Niobrara and Pierre shales, above the Frontier series, may be sources of oil found in those shales. At Salt Creek the dome is severely faulted. On the surface paraffine is found in calcite, lining the fissures, and at many localities in the field are oil seepages. Frequently drilling wells are filled with oil from the grass roots downward; several have been known to flow from the shales, when gas pockets were encountered. The fact that the oil so found is similar to the oil of the sand series suggests the origin. While not presenting a clear case at Salt Creek, because of the residuary character of Shannon oil, it is probable that we have one at Big Muddy.

At Big Muddy, in Natrona County, the principal oil is produced from the Frontier, here a single sand. In the zone of fracture, the so-called Shannon sand, 2000 feet above the Frontier, has produced some oil—often oil and water. At high points on the dome, it has contained only water. The oil found was of similar character to the Frontier. It is suggested that the Shannon was first full of water, but that oil migrating upward through open fissures accumulated in it, displacing the water. At Big Muddy one feels safer in placing the point of primary accumulation in the Frontier. The writer believes the upper oils at Salt Creek also first accumulated in the Frontier series.

At Pilot Butte, Fremont County, Wyoming, oil was produced in a fracture zone from shales above the Frontier while a test found only water in the sand series. The oil may have been distilled from shales adjacent to its present position; it may have had its source in the Frontier and have been driven upward by the waters, completely depleting the sands. There is an analogy at Teapot.

One would suppose that when the oil had been completely driven from the sand, water would follow. No water was noted in the shales by the drillers at Pilot Butte. However, the writer agrees with Washburne, shales may be partially water saturated, yet that saturation may not be noticeable to the driller.[6]

In our Cretaceous fields the fissures are often filled with calcite. At Salt Creek the calcite often contains paraffine, indicating that free oil once passed that way. The writer does not believe that these fissures were filled with water bearing calcite, but suggests that the calcite was deposited by a process of sweating from the fissure walls, even while the fissures may have been filled with the oil. Only a water super-saturation of the shales would be noticeable to the driller.

Recently the word has been received that the First Wall Creek sand at Teapot contains water. Doubtless oil accumulated primarily in this sand, as a well-developed, small, severely fractured dome exists. On a smaller scale than at Salt Creek there are definite surface indications of oil. The crest of the dome is closely encircled by a sandstone escarpment which at several points give a distinct gasoline odor. A large calcite dike crosses Section 3, in which the writer once found considerable paraffine. Wells drilled on the crest found oil in the Shannon, while others have developed oil in the shales below. Reasons for believing the Shannon and shale oil at Salt Creek and Big Muddy have origin in the Frontier sands have already been submitted. Oil is being continuously driven by hydrostatic pressure from sands in which it is accumulated, freely through wide fissures, slowly through less open fractures. The movement upward from the top sand is unobstructed and comparatively rapid. Much of it evaporates at the surface. The second and succeeding sands, on the other hand, have no such unobstructed outlet, flow from them being obstructed by the first sand. When, however, no oil—only water—is found at the crest of the dome in the first sand of a field, it is certainly not a favorable condition in considering the chances of finding oil in the second sand. The loss of oil through migration from the sands, its dissemination and evaporation at the surface, is immense. Were one able, instrumentally, to look at the air stratum at the surface of Salt Creek, he would no doubt see gases steadily rising over the whole productive area. The gases probably

[6]Ibid.

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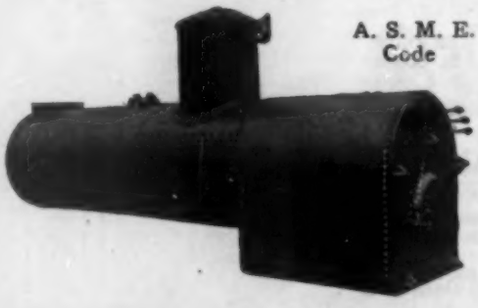

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leave the heavier oil products when they reach the aerated zone, 20 to 40 feet below the surface.

The productive area in the first sand at Salt Creek covers, perhaps, 4600 acres, while the second sand will produce from 23,000 acres, plus. At Grass Creek the first sand produces from a small area, indeed, while succeeding sands produce from a comparatively large territory. It is not, perhaps, unreasonable to suggest that more oil has escaped from Salt Creek, and possibly Grass Creek as well, than will be recovered.

At Elk Basin, a highly faulted dome, on the Montana-Wyoming line, the Frontier horizon contains two producing sands, in the lower of which the oil apparently accumulated originally. This lower or second sand has a thickness of 40 feet and is coarse to conglomeratic. Of the sands the writer has seen in Wyoming, it appears to have the best character as an oil reservoir. The first sand, 200 feet above, is perhaps 100 feet thick; it is a "dry" sand—contains no water, and the oil found in it is probably secondary, having migrated from the second sand. Lacking water in the said, the oil lacks pressure; lacking pressure, the sand is not well saturated; lacking full saturation, the wells producing from it are not usually large. Some wells within the second sand productive area have shown a negligible quantity of oil in the first sand. In the absence of supporting water, oil has been found in the first sand well down on the flanks of the structure.

The subject of migration is involved and is also most difficult in its application. The lack of proper fault fissures or other vent for the accumulated gases has more than once proved disastrous to our hope of finding oil. Gases doubtless occupy the crests of the domes far ahead of the approaching oil. They begin to rise to the high points at the time of original generating movement. At Grass Creek, which is crossed by one large fault and possibly many minor ones, the first producing oil sand at the crest is at a depth of about 600 feet, and little or no gas accompanies the oil. At Buffalo Basin, only a few miles distant, there are twin domes. The upper sand at the crest of the more shallow eastern dome lies at 1400 feet depth. In the course of careful mapping no apparent faulting associated with these domes was found and no oil has been developed at Buffalo Basin, though gas wells as large as one hundred million feet capacity have been reported. A reasonable amount of faulting, providing a means of escape for the gas, may be a favorable feature in a dome where oil is desired. It is noteworthy that the gas at Buffalo Basin is dry. Found from 1400 to 1700 feet, its initial closed or rock pressure was around 750 pounds. Regardless of the apparent circumstances, the writer believes that gas with large volume and rock pressure will be, for practical purposes, dry. Gas, when initially accumulating, is probably wet; as the pressure mounts the heavier or wet constituents are condensed, drop out, and become associates of the gas. At Big Sand Draw, Fremont County, Wyoming, it is reported that the Producers and Refiners recovered 6 barrels of kerosene in a few hours from one well, with the gas escaping from a partially open valve and striking an obstruction in the tank. An analysis of the gas showed it to be dry. At McMahon Terrace, Park County, Wyoming, gas was found in the Frontier at 2230 feet. On occasions, when the valve was opened, it was reported that several barrels of gasoline (estimated, no doubt) gushed from the well. The gas, however, had 900 pounds pressure and was dry. Nature has provided her own compressor plant.

At Mule Creek—a small, sharp structure—paraffine oil has been found in the Lakota (basal member of the Cloverly). It is possible that oil has migrated from the Pennsylvania rocks below, although we have heretofore found no paraffine oil in the Pennsylvanian of Wyoming. It may have had its origin within the fresh water red rocks adjacent, although many geologists doubt that the "red beds" contain organic matter of character to provide petroleum. The oil may owe its origin to the doubtless petroliferous shales above the Dakota. The Dakota now contains only water. Oil originating in overlying strata may accumulate in underlying beds. At Mule Creek it is suggested that the Dakota may once have been petroliferous. Oil migrating laterally and even upwards across beds may enter lower strata. This is especially possible in a sharp structure like Mule Creek.

The Muddy-Dakota horizon is an important producer of light paraffine oils. Lance Creek, Rock River, Ferris dome, Lost Soldier, etc., of southern Wyoming, produce from the Muddy or Dakota, or both.

West of Denver and two miles south from Morrison the Muddy sand locally shows heavy saturation of paraffine base oil. A very slight buckling in the steeply dipping stratum seems to be the only excuse for this accumulation. The sand is exposed in a hogback from the Wyoming state line to Colorado Springs and beyond. The amount of local saturation suggests the vast quantity of oil that may have been driven from this long outcrop. The lack of stain in the rocks adjacent to the saturated area suggests that ordinarily the light paraffine oils leave no apparent stain in exposed rocks traversed. An instance may be observed at Cottonwood dome, east of Cody, Park County, Wyoming, where Cottonwood Creek, traversing the crest at one point, partly exposes the Frontier sands. At the time of investigation the sands showed no stain, although in adjacent wells penetrating them they showed oil. One sand was partly covered by water, and fragments taken from below the water line were saturated with oil. This instance suggests that where unprotected, the light oil evaporates before reaching the exposed surface. The various constituents of this paraffine oil are practically colorless, and absence of stain at the outcrop of the containing sand does not indicate that oil will not be found within it at favorable trap adjacent. At Oregon Basin, Park County, Wyoming, the Frontier sands outcrop in the crests of two domes; they show no stain at exposure and yet where penetrated at a distance below the surface in adjacent wells, light showings of oil were found. When under proper cover these sands probably once contained quantities of oil.

In the San Juan field, southeastern Utah, light paraffine base oil of Pennsylvania grade has been developed in the upper Hermosa beds (Lower Pennsylvanian) locally called the Goodridge. The series consists of shales, sands and limestones. In this particular instance the San Juan river has cut through two adjacent domes and exposed the sands, the supporting water has been liberated and the oil has gravitated to the trough between. Oil has been found in several wells and in various sands. Two or three igneous dikes are on the east flank of the west anticline, but there appears to be little or no metamorphism of the rocks adjacent and no reason appears for believing that oil has been destroyed. It is suggested that the relatively small amount of heat from the igneous rocks may have had a beneficial effect in assisting the distillation of the oil from the limes and shales.

At McElmo dome, Montezuma County, southwestern Colorado, and 40 miles east of San Juan field, live oil was found at an exposure on the west flank, in calcite filling a 4 foot fissure. Ute Mountain, just south of the dome, and associated with it, is a large igneous plug. A well drilled found some gas and light oil, not in commercial quantities, but apparently unaltered, in about the Shinarump (lower Triassic) horizon. Within the Goodridge series, reached at 3300 feet, the sands were found to be largely calcareous. Some water was found in one sand and below it in another, a slight show of green oil, followed by two to four million feet of gas, estimated. The well was abandoned at 4190 feet. The conditions suggested that some cracking of the oil, due to excessive heat, may have taken place. Also, that heat may have caused an abnormal circulation of waters carrying lime, which in large measure cemented the sands.

The Rocky Mountain Region is replete with special conditions—more apparent there than in some other areas, perhaps, because displayed in a large way. Limited time has neccessitated the selection of only those deemed most interesting for this occasion.

Discussion

H. W. C. Prommell: I wish to call attention to the Bolton Creek oil field in Wyoming. In this field the first sand encountered is the Dakota which is distinctly a water-bearing sand. The second sand encountered is the Sundance. Oil was encountered at the top of the Sundance, water was encountered near the middle and oil was encountered near the base of the Sundance. Oil was also encountered in a sand near the base of the Red Beds. It seems, therefore, that in this field the presence of water without any showing of oil in the first sand was not a bad indication as far as the presence of oil in the lower sands was concerned.

J. L. Rich: With reference to the theory that the presence of water with no show of oil in the first Wall Creek sands at Teapot dome is a very unfavorable indication of the oil possibilities of the sands below; I would suggest that it is entirely possible that conditions of circulation of water might flush one sand while leaving a large accumulation of oil in another sand above or below in which water circulation is less free.

Curtailment Brings Big Loss in Quarter

(Continued from page 16)

Company and Location—	Barrels
Duffield, L. C. and H. R. and Catherine Straight, Tulsa	6,313
Dunn, J. J., Okmulgee	684
Dunn Oil Company, Tulsa	587
Dunn Mineral Trust, Ardmore	6,082
Dunnington, A. S., Tulsa	144
Dwyer, J. D., Tulsa	8,560
Eagle Oil & Gas Co., Lyons, Kans.	38
Earltex Pet. Co., E. S. Hall, Rec., Duncan	443
Eason, T. T., Enid	398
Eastern Oil Co., Buffalo, N. Y.	99,171
Ebling, L. R. & Co., Bartlesville	2,166
Echo Oil Co., Tulsa	25,057
Edgington, L. D., Hominy	372
Eliza Tim Oil Co., Sapulpa	366
Elk Oil Prod. Co., Tulsa	365
Elliott, W. C., Tulsa	378
Elliott & Smith, Tulsa	7,873
Elliott & Vensel, Tulsa	11,325
Elm Oil Co., Tulsa	1,854
Elmer Oil Co., Elmira, N. Y.	2,963
Emery Bros., Bradford, Pa.	3,714
Emery, Lewis, Jr. & Sons, Bradford, Pa.	25,351
Empire Gas & Fuel Co., Del. Okla. Div. Bartlesville	198,041
Enfisco Oil Corp., Tulsa	15,614
Enid 80 Oil & Gas Co., Enid	393
Enterprise Transit Co., Titusville, Pa.	4,061
Essano Oil Co., Tulsa	1,248
Eureka Oil & Gas Synd., Omaha, Neb.	59
Exchange Oil & Gas Co., Tulsa	1,831
Exchange Trust Co., Receiver, Tulsa	230
Exchange Trust Co., Trustee, Tulsa	69
Fair, H. G., and J. F. Patterson and L. B. Norton, Okmulgee	43,296
Fan-Elva Oil & Gas Co., Pittsburgh, Pa.	2,305
Farmer, A. L., and A. E. Duran, Tulsa	735
Farren, C. F., Tulsa	1,756
Fay Drilling Co., Tulsa	755
Federal Oil Co., Cleveland	379
Fee Oil Company, Muskogee	237
Fellowship Oil & Drilling Co., Tulsa	209
Fernow, John, Jr., Tulsa	883
Fifty-Nine Osage Oil Co., Bartlesville	56,418
Finance Oil Co., Pawhuska	28,119
First National Bank, Chelsea	325
Fisher Oil Co., The, Pittsburgh, Pa.	2,633
Fitzgerald, D. C., Trustee, Ardmore	7,554
Fitzgerald, H. L., Tulsa	390
Fitzgerald & Withington, Tulsa	787
Flanagan & McGrath, Delaware	271
Flat Rock Oil Co., Tulsa	1,685
Flesher Pet. Co., Tulsa	58,238
Flora Okla Oil Co., Cement	1,689
F. & N. Oil Co., Tulsa	2,993
45 Oil Co., The, Chicago, Ill.	2,401
45 Oil Co., The, and E. S. Bell, Chicago, Ill.	4,828
Force Oil Co,, Tulsa	147
Forster, S. F., Dallas, Texas	1,308
Forster, Laney & Swain, Bartlesville	296
Fort Ring Oil & Gas Co., Fort Worth, Texas	5,928
Fortuna Oil Co., Dallas, Texas	104,702
Foster, H. V., Bartlesville	38,957
Foster, H. V., and Foster & Davis, Inc. Bartlesville	1,096
Foster Investment Co., Tulsa	43,732
Foster & Davis, Inc., Bartlesville	14,954
Foster & Leech, Bartlesville	125
Fox Pet. Co., Ardmore	5,533
Franchot, D. W. & Co., Tulsa	36,289
Francis, W. C., Skiatook	228
Franklin, Wirt, Ardmore	45,263
Franklin, Wirt, and The Carter Oil Co., Ardmore	39,780
Franklin Oil Co., Franklin, Pa.	606
Franklin Oil & Dev. Co., Nowata	1,086
Freeborn, F. W. Engineering Corp., Tulsa	1,107
Freeland, C. L., Trustee, Bristow	2,255
French, M. C., Okmulgee	1,300
Friedman, Loues, Tulsa	414
Friedman, Loues Oil Co., Tulsa	1,639
Frost, D. E., Stevens Point, Wis.	622
Furlow Dev. Co., Enid	7,224
Gaffney, H. E., H. B. and Olive, Bradford, Pa.	10,835
Galbraith, H. H. et al, Independence, Kansas	4,013
Gamo Oil Co., Claremore	434
Ganas, John, Pawhuska	607
Gant, Walter H., Ardmore	3,920
Gardner & Avery, Tulsa	315
Gardner Oil Co., Tulsa	119
Gardner Pet. Co., Tulsa	35,877
Garis, Ralph, Chelsea	50
Garnett, M. R., Agent, Nowata	115
Gartner, J. L., Tulsa	1,375
Gates Oil Co., Ardmore	41,238
Gates Oil Co., Denver, Colo.	3,132
Gates-Cook Drilling Co., Okmulgee	764
Gatewood, Guy, Bartlesville	99
Gatewood, Pearl A., Bartlesville	98
Geneva Pearl Oil & Gas Co., Ardmore	4,616
Genevra Oil Co., The, Bartlesville	623
Georgia Oil & Gas Co., Copan	3,652
Getzendaner, R. W., Waxahachie, Tex.	1,478
Getty, Geo. F., Tulsa	9,215
Getty, Geo. F., et al, Tulsa	862
Ghormley Oil & Gas Co., Coffeyville, Kansas	147
Giddings, F. C., W. H. Gray, A. B. C. Dague, Chas. F. Egan and R. A. Welch, Tulsa	1,458
Gilbert, D. Lawrence, Glendale, Calif.	328
Gilbert, N. T., Special, Tulsa	1,798
Gilchrist, H. M., Bartlesville	1,159
Gilcrease Oil Co., Tulsa	5,826
Gillespie, Joe, Coffeyville, Kas.	89
Gillespie, F. A. & Sons Co., Tulsa	25,642
Gillette, J. M., Tulsa	758
Gilliam, S. H., Trustee, Okmulgee	3,532
Gilliland Oil Co., Tulsa	74,329
Gilmer Oil Co, The, Ardmore	38,912
Gladstone Oil & Ref. Co., Shreveport, La.	10,059
Glasco Oil Co., Sapulpa	15,725
Glass, J. Wood, Nowata	271
Glass, Reed & McSpadden, Nowata	924
Glass & Weaver, Nowata	79
Gled Oil Co., Tulsa	135
Godfrey, F. L., Enid	1,572
Goldie Oil & Gas Co, Kansas City, Mo.	1,138
Goodyear Oil Co., Tulsa	4,677
Graham, J. H., Bartlesville	5,945
Grand Duke Prod. Co., Muskogee	1,411
Gray, Wm. D., Tulsa	1,375
Great Lakes Oil & Gas Co., McAlester	
Great Southwestern Pet. Co., Okla. City	735
Greenfield Trust, The, Rock Island, Ill.	1,093
Gregg, C. O., Ardmore	4,447
Greis, H. N., Tulsa	135
Grieves, John B., Terlton	4,044
Griffin Prod. Co., The, Tulsa	2,951
Griffith, R. F., Trustee, Tulsa	2,355
Grimes, W. Baker, Tulsa	282
Grimes & Elliott, Tulsa	397
Grimes, Elliott & Blair, Tulsa	135
Grimes, Blair et al, Tulsa	600
Grimes & Gillespie, Tulsa	9,954
Grimes, Parent, Gillespie & Dickson, Tulsa	240
Gurley, H. S., Blackwell	3,129
Gypsy Oil Co, Tulsa	3,130,141
Hadley, J. R., Tulsa	6,114
Halco Oil Co., Tulsa	964
Halden Oil Co., Tulsa	1,000
Hales, W. T., Okla. City	59,922
Halfast, E. W., Muskogee	356
Halfmoon Oil Co., Dewey	623
Hall, G. A., Bartlesville	133
Hall & Lucas, Duncan	1,380
Hamilton, W. R., Dewey	1,003
Hammat, D. W. & Co., Tulsa	1,500
Hammer, A. A., Tulsa	594
Hamon, Estate of Jake L., Ardmore	27,320
Hancock, W. E., Tulsa	752
Hancock Oil Co., Tulsa	679
Hancox, T. H., Tulsa	249
Hane, C. E., Agent, Tulsa	14,076
Haner, J. L., Muskogee	170
Haner Oil & Ref. Co., Muskogee	360
Haney & Ewers & Sons, Coffeyville, Kansas	289
Hannis Oil Co., Tulsa	144
Harberson, C. C. and R. M Jones, Trustee, Kansas City, Mo.	2,101
Harding Oil & Gas Co., Chelsea	124
Harland Oil Co., Pittsburgh, Pa.	28,454
Harlin, E. C. et al, Welch	97
Harmon, C. C., Nowata	1,233
Harrington, Lillian F., Tulsa	308
Harrington, William, Marietta, Ohio	174
Harrington, W. J., Coffeyville, Kas.	1,838
Harris, J. A., Jr., Trustee, Philadelphia, Pa.	246
Harris, Mrs. L. C., Rising Sun, Ind.	248
Harris, T. D., Okmulgee	487
Harris, T. D., Trustee, Okmulgee	47
Harris, Haun & O'Shaughnessy, Blackwell	2,336
Harris-Strawn Oil Co., Ardmore	4,588
Harrivo Oil Co., Okla. City	2,347
Harvey, Phil P., Coffeyville, Kans.	201
Hartman & Mann, Pittsburgh, Pa.	277
Harwell, E. P., Tulsa	6,711
Haskell, F. K., Bartlesville	214
Haskell, F. K., Agent, Bartlesville	2,088
Hastings, W. T., Marietta, Ohio	345
Hatch, G. W., Nowata	213
Haubert, H. J., Tulsa	254
Hayden, John F., Tulsa	928
Hayner Pet. Co., Tulsa	1,297
Hazen, Irvin R., Agent, Chicago, Ill.	5,706
Hazlett, A. G., Morris	966
Hazlett, Bradford & Frazier Bros., Eldorado, Kans.	3,220
H. C. W. Oil Co., Chelsea	429
Healdton Field Oil Co., El Reno	1,033
Healdton Oil & Gas Co., Enid	214,383
Heart, J. Foss, Bartlesville	620
Hector Oil Co., Bartlesville	82
Hector Oil Co., M. W. Alworth and A. Miller McDougal, Bartlesville	77
Heenan, J. A., Ardmore	1,703
Hefner, Company, The, Ardmore	1,703
Heggem & Davis, Tulsa	1,574
Henderson Company, The, Nowata	67
Henderson & Holden, El Dorado, Kans.	586
Hennessey, J. E., Okmulgee	1,764
Henry Oil Co., The, Tulsa	15,362
Henry & Avers, Tulsa	1,270
Henton, E. L. et al, Chelsea	1,577
Henton & Weible, Chelsea	503
Hertzel, F. L., Warren, Pa.	1,314
Hewitt Mineral Trust, Ardmore	2,421
Hibbard, S. B., S. S. Glasscock and John B. Hammond, Kansas City, Mo.	3,471
Hickernell, G. W., Trustee, Warren, Pa.	504
Higgins Oil & Fuel Co and Pulaski Oil Co., Tulsa	2,780
Highway Oil Ref. Corp., Tulsa	2,171
Hildreth, W. A., Drumright	10
Hill Oil & Gas Co., Tulsa	207,565
Hillside Oil Co., Parkersburg, W. Va.	3,368
Hinerman & Marshall, Tulsa	6,013
Hinkle, F. V., Okmulgee	9,921
Hippodrome Oil Co., Tulsa	1,115
Hisom Oil Co., Kellyville	1,158
Hiteshew, W. B., Trustee, Robinson, Ill.	659
Hivick, L. C. & J. P., Ardmore	1,078
H. & M. Pet. Co., Tulsa	1,749
Hoge, J. B., Nowata	241
Hojoco Oil Co., Tulsa	191
Hollingsworth, George C., Receiver, Ardmore	2,004
Hollingsworth, H. L., Brown & Baxter, Broken Arrow	111
Holm, Coombs & Chapman, Bartlesville	828
Holmes, Walter E., Tulsa	2,599
Holmes, Benjamin F. & Co., Lyons, Kansas	555
Holmes Oil Co, The, Lyons, Kansas	134
Holtzendorff, C. B., Claremore	15
Homaokla Oil Co., Okla. City	33,108
Home Gas Co. of Cushing, Cushing	21,450
Hoot Oil Co., Warren, Pa.	34
Hornecker, Henry, Tulsa	1,155
Hornecker & Graham, Tulsa	338
Hornecker & Hagler, Tulsa	2,338
Hornecker, Frederick & Hagler, Tulsa	81
Hornecker, Miller & Dunnigan, Tulsa	301
Horner, W. H., Cleveland	266
Horrigan, B. D., Ardmore	316
Horsley, Thos. J., Wewoka	183
Houser, M. A., Tulsa	469
Howard, O. R., Tulsa	3,391
Howard, Duffield & Berlin, Tulsa	7,540
Howarth, Floyd, Oil & Gas Co., Tulsa	12,457
Huckleberry, J. H., No. 4, Kansas City, Mo.	17
Hudson Oil Co., Wellsville, N. Y.	230
Hudson, Grimes et al, Tulsa	434
Hughes, M. S., Bristow	714
Hughes, Roland A., Cygnet, Ohio	447
Hughes, R. H., Tulsa	159
Hughes & Schwyn, Cygnet, Ohio	589
Hughes, Solether & Brecht, Cygnet, O.	425
Hughes-Weatherford Oil Synd., Dallas, Texas	746
Hulen, H. E., Bartlesville	1,299
Hulings, F. W., Okmulgee	498

Company and Location—	Barrels
Hulings, F. W., Trustee, Okmulgee	252
Hulings, M. C., Tulsa	219
Hulings, F. W. and D. M. Smith, Okmulgee	461
Hull, J. A., Tulsa	283
Hull, J. A. Company, Tulsa	21,409
Humble Oil & Ref. Co., Houston, Tex.	280,033
Hummel, Chas. S., Chelsea	548
Hunnicutt, Hugh, Hominy	1,318
Huntley Oil Corp., Pittsburgh, Pa.	1,673
Hurdle, H. J., Mounds	162
Hutch Oil & Gas Co., The, Kansas City, Mo.	480
Hutt, Mrs. Annie M., Fort Worth, Tex.	352
Hutt, E. F., Kansas City, Mo.	352
Hutt, J. E., Kansas City, Mo.	352
Hyden, Arch H., Tulsa	163
Hyman, T. J., Chicago, Ill.	67
Ideal Oil & Gas Co., Ardmore	2,867
Ideal Royalty Co., Tulsa	2,055
Illata Oil Co., Vinita	203
Illinois Oil Co., Chicago, Ill.	1,600
Imo Oil & Gas Co., Covington	9,636
Independence Oil Co., Independence, Kansas	2,121
Independent Oil & Gas Co., Okmulgee	152,300
Indian Territory Illuminating Oil Co, Bartlesville	50,943
Indiana Oil & Gas Co., Tulsa	37,436
Interstate Oil & Gas Co., Bartlesville	4,824
Invader Oil Corp., Muskogee	4,041
Irelan, O. M., Sapulpa	4,878
Iron Mountain Oil Co, The, Tulsa	55,255
Irvine, James, Sapulpa	308
Irwin, John S., Bartlesville	1,124
Irwin, Miller, Bartlesville	1,130
Jackson, L. B., Sapulpa	1,753
Jackson, Wise & Bovaird, Sapulpa	2,408
Jackson, Wise & Markham, Sapulpa	9,783
Jackson, Wise & Snedden, Sapulpa	1,489
Jameson, John B., Concord, N. H.	4,477
Jankowsky, Mose, Tulsa	4,335
Jarvis, P. C., Kirol R. Holm, & Darby Pet. Corp. of New York, Tulsa	1,647
Jeff Oil Co., Chelsea	460
Jeffrey, E. B., Okla. City	3,644
Jelinek, John, Nowata	124
Jennings, E. H. Bros. Co., Pittsburgh, Pa.	2,391
Jennings, R. G., Pittsburgh, Pa.	4,462
Jennings, R. G., Snowden & McSweeney Co., New York, N. Y.	5,206
Jens-Marie Oil Co., Ponca City	2,642
Jenson, H. H., Tulsa	616
Jenson, P. W., Chelsea	384
Jewel Oil Co., P. J. Lang, Trustee, Tulsa	129
Jim-Glenn Oil Co., Tulsa	9,908
Jitney Oil Co., Tulsa	155
Johnson, J. Alfred, Ardmore	882
Johnson, Mrs. C. L., Kansas City, Mo.	116
Johnson, W. B., Okmulgee	51
Johnson Farm Oil Co., Warren, Pa.	1,185
Johnson Oil Ref. Co., Chicago, Ill.	647
Jolly, W. A., Okmulgee	117
Jones, C. S., Tulsa	1,375
Jones, R. C., Cushing	785
Jordan, E. W., Nowata	71
Jordon, F. G. et al, Okmulgee	658
Josey Oil Co., Tulsa	29,596
Kanola Oil & Ref. Co., Tulsa	7,538
Karnes, H. E., Independence, Kans.	71
Katy Oil & Gas Co., Bartlesville	1,581
Kay County Gas Co., Ponca City	105,851
Kay Oil Co., Blackwell	1,307
Kay & Kiowa Oil Co., Tulsa	3,355
Keeche Oil & Gas Co., Okla. City	1,060
Keenan, J. R., Tulsa	29
Keener Oil & Gas Co., Tulsa	38,286
Keith, J. H., Coffeyville, Kans.	152
Keller, Will, Agent, Nowata	38
Kemp, E. R., Estate, Tulsa	1,667
Kennedy, H. W., Tulsa	1,722
Kennedy, J. L., Estate, Tulsa	340
Keno Oil Co., The, Tulsa	4,389
Kerull Oil Co., Tulsa	5,483
Kewanee Oil & Gas Co., Titusville, Pa.	104,180
Keystone Oil & Gas Co., Independence, Kansas	130
King Brothers, Okmulgee	9,091
King, C. A., Nowata	45
King, C. A., Trustee, Nowata	347
King, C. A. and Fred Gum, Nowata	259
King, Dan G. and Roger F. Watson Okmulgee	149
King, Frank, Okmulgee	1,063
King & Harrington, Tulsa	341
King Philip Oil Co., New Bedford, Mass.	596
Kingwood Oil Co., Okmulgee	46,058
Kinney, Geo., Trustee, Tulsa	22,292
Kinney, Geo., and C. W. Kingsbury, Sand Springs	199
Kinney, Geo., C. W. Kingsbury, C. F. Tingley and E. M. Monsell, Sand Springs	3,010
Kinney, Geo., C. W. Kingsbury, C. F. Tingley and C. B. Stuart, Sand Springs	400
Kinney-Wood-McIntyre, Tulsa	275
Kirk Oil Co., Ardmore	33,856
Kirkwood, C. W., Trustee, Tulsa	8,450
Kirkwood & Kennedy, Tulsa	537
Kistler, Emily, Tulsa	356
Knappenberger, D. L., Sapulpa	138
Knappenberger, W. E., Tulsa	138
Knickerbocker Oil Co., Tulsa	2,748
Knupp Oil Corp., Warren, Pa., and Phillips Pet. Co., Bartlesville	912
Knupp Oil Corp., J. J. Lubell and Kansome Oil & Gas Co., Warren, Pa.	1,271
Kohlenberg, W. C., Sapulpa	38
Kraeer, O. A. & Co., Bartlesville	2,786
Kuhns, J. H., Tulsa	1,901
Kunkel, W. A., Bluffton, Ind.	197
Lahman Bell Oil Co., Dewey	679
Lamb, C. H., Tulsa	34
Lambert, E. J., Tulsa	2,965
Lambert, W. J., Estate, Tulsa	113
Lambert Oil & Gas Co., Tulsa	8,387
Lamberton & Wilcox, Tulsa	47
Lancaster & Grimes, Tulsa	424
Landon, A. M., Independence, Kans.	7,934
Lane, E., Nowata	2,039
Lane & Wasson, Ardmore	5,792
Lane Oil Prod. Co., Chicago, Ill.	3,060
Larkin, J. J., Tulsa	356
Larkin & Reynolds, Bartlesville	3,130
Larkin Oil Co., Tulsa	71
Laskley, Edmund, Tulsa	110
Lawrence Pet. Co., Tulsa	721

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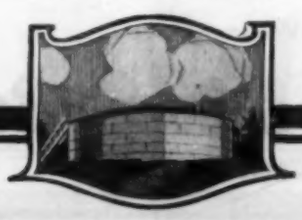

Company and Location—	Barrels
Lawson & Cowles, Nowata	970
Lawson, E. B., Nowata	22,236
Lawson & Mancill, Nowata	207
Lawson & Reed, Nowata	400
Lawson & Whitehill, Nowata	3,683
Lawson, E. B. and Sunset Prod. Co., Nowata	295
Lawton Corporation, Okla. City	1,658
Layton Oil Co., Tulsa	842
Lea Drilling Co., Tulsa	767
Leard, J. K., Okmulgee	912
LeBosquet, J. E., Tulsa	80
Lebow, M., Tulsa	617
LeFever, M. M., Marietta, Ohio	427
Lennox Oil & Gas Co., Lennox, S D.	494
Lenox Oil Co., Okmulgee	52
Leonard Pet. Co., Washington, Pa.	2,617
Leopold & Brett, Muskogee	358
Lesch, F. Howard, Lockport, N. Y.	151
Lesh, J. C., Guthrie	677
Levant Oil Co., Ardmore	21,964
Levy, I. B., Trustee, Okla. City	6,841
Lewis-Clarke Pet. Co., Okla. City	15,978
Lewis Oil Co., Pittsburgh, Pa.	18,997
Liberty Oil Co., Inc., Geo. R. Bassett, Trustee in Bankruptcy, Wichita, Kan.	1,401
Lightning Creek Oil & Gas Co., Wellsville, N. Y.	386
Lima Oil & Gas Co., Bartlesville	5,247
Lincoln Oil & Gas Co., Tulsa	3,043
Link Oil Co., The, Tulsa	25,950
Lippa, Arthur, Tulsa	80
Little Fay Oil Co., Tulsa	20,994
Little Frank Oil Co., Tulsa	8,854
Livingston Oil Corp., Tulsa	3,674
Loar, W. N. & Co., Okmulgee	2,634
Local Oil Co., Warren Pa.	1,353
Lomore Oil Co., Ardmore	3,662
Lone Star Gas Co., Dallas, Texas	48,910
Lorraine Pet. Co., Tulsa	142,399
Louvain Oil Co., Bartlesville	903
Lovell, Dot L., Gdn. of Paul Lovell and Dot L. Lovell, Admrx. Paul Lovell Estate, Marietta, Ohio	1,100
Lovell, J. A., Marietta, Ohio	422
Lovell Oil Co., Nowata	1,299
Lowrie & Barnes, Robinson, Ill.	255
Lowrie, Barnes & Titus, Robinson, Ill.	1,988
Lowrie Oil Corp., Muskogee	5,673
Lucado Oil & Gas Co., Coffeyville, Kan.	287
Lucky Scott Oil & Gas Co., The, Independence, Kans.	1,138
Ludey, Chas. A., Marietta, Ohio	3,917
Lynch, C. B. & Co., Tulsa	1,995
Lyons Pet. Co., Denver, Colo.	40,182
McAllister, C. T., Sapulpa	75
McBrayer, T. H., Okmulgee	136
McBride, W. C., Inc., St. Louis, Mo.	3,034
McCaskey, J. G. and C. E. Wentz, Trustee, Ponca City	614,549
McClellan, J. C., Drumright	260
McClintock, H. H., Trustee, Bartlesville	2,546
McClintock, R. Otis, Tulsa	745
McConnell, Mrs. Grace M., Okla. City	172
McCormick, J. A., Trustee, Muskogee	1,040
McCormick, Matt, No. 2, Nowata	74
McCullough, E. E., Muskogee	438
McCully Oil & Gas Co., Hominy	577
McDonald, J. H., Muskogee	397
McDonnell, A. D., A. C. Lipsitz, L. Borinstein, W. T. Schafer and Jas. Kennedy, Tulsa	318
McDonnell, A. D., John Swanson, A. C. Lipsitz, and L. Borinstein, Tulsa	104
McFarlin & Chapman, Tulsa	572
McGill, H. R., Tulsa	2,436
McGuire, F. H., Guthrie	237
McKeon, P. G., Tulsa	2,703
McKes & McFarland, Ardmore	53
McKes Oil & Gas Co., Ardmore	2,728
McKinney, J. E. et al, Tulsa	3,634
McKinney, John E., Estate, Tulsa	1,104
McKinney, John E. Estate, and Frank M. Breene, Tulsa	4,346
McLane Farm Oil Co., Tulsa	1,299
McMahon, D. F., Tulsa	45
McMahon, J. L., Wichita Falls, Texas	137
McMan Oil & Gas Co., Tulsa	123,821
McNutt, J. P. and A. L. Davis, Morris	348
McOwen, Bernard, Estate, Buffalo, New York	1,121
McSpadden, T. R., Nowata	200
MacMullen, G. W. Co., Tulsa	889
Mack Oil & Gas Co., Bartlesville	433
Magna Oil & Ref. Co., Tulsa	9,930
Magnolia Pet. Co., Dallas, Texas	1,605,652
Magnolia Pet. Co. for Wallace & Coogan, Dallas, Texas	428
Maire Bros. & Ebling, Bartlesville	3,300
Malernee & Dunlap, Walters	6,732
Mc-Lou Oil Co., Pittsburgh, Pa.	3,949
Mallory, J. F. and J. N. Stewart, Parkersburg, W. Va.	507
Mallory & Co., Tulsa	319
Man, S. A., Wichita Falls, Texas	4,675
Mancill, H. E., Bartlesville	71
March Oil Co., Tulsa	13,589
Margay Oil Corp., Tulsa	37,978
Margulies, L. J., D. E. Sanders and W. M. Hiler, Tulsa	1,222
Marietta Oil Co, The, Marietta, Ohio	2,094
Mark, Clayton, Muskogee	165
Markham, J. H., Jr., Tulsa	23,765
Markham, J. H. Jr., et al, Tulsa	18,914
Marland Ref. Co., Ponca City	426,937
Marshall Oil Co., Nowata	178
Marshall Oil Co., Tulsa	333
Martin, Emma L., Fresno, Calif.	64
Martin, L. J., Tulsa	277
Martin & Neice, Tulsa	4,690
Martin, S. A. Oil Co., Chelsea	1,042
Mason, D. B., Tulsa	21,956
Matteson, Chas. D., St. Paul, Minn.	653
Maxson, E. E., Trustee, Owasso	903
Maxwell, D. G., Bartlesville	1,437
May, J. T. and C. L. Benbow, Muskogee	8
Mead, C. J., Okmulgee	46
Mechling, C. A., Tulsa	392
Mechling & Berlin, Tulsa	2,826
Meissner, Wm. H., Trustee, Tulsa	137
Melba Oil Co., Tulsa	3,259
Mercer Oil Co., Okla. City	457
Meridian Pet. Corp., W. A. Goforth, Rec., Tulsa	25,742
Meridian Oil Co., Inc., Jennings, La.	123
Merrick, F. W. and R. W. Coe, Ardmore	17,134
Messner & Clough, Bartlesville	1,014
Mickleson, D. D., Trustee, Tulsa	806
Mickleson, D. D., Tulsa	969
Mid-Co. Pet. Co.-Jas. A. Green & Har-	

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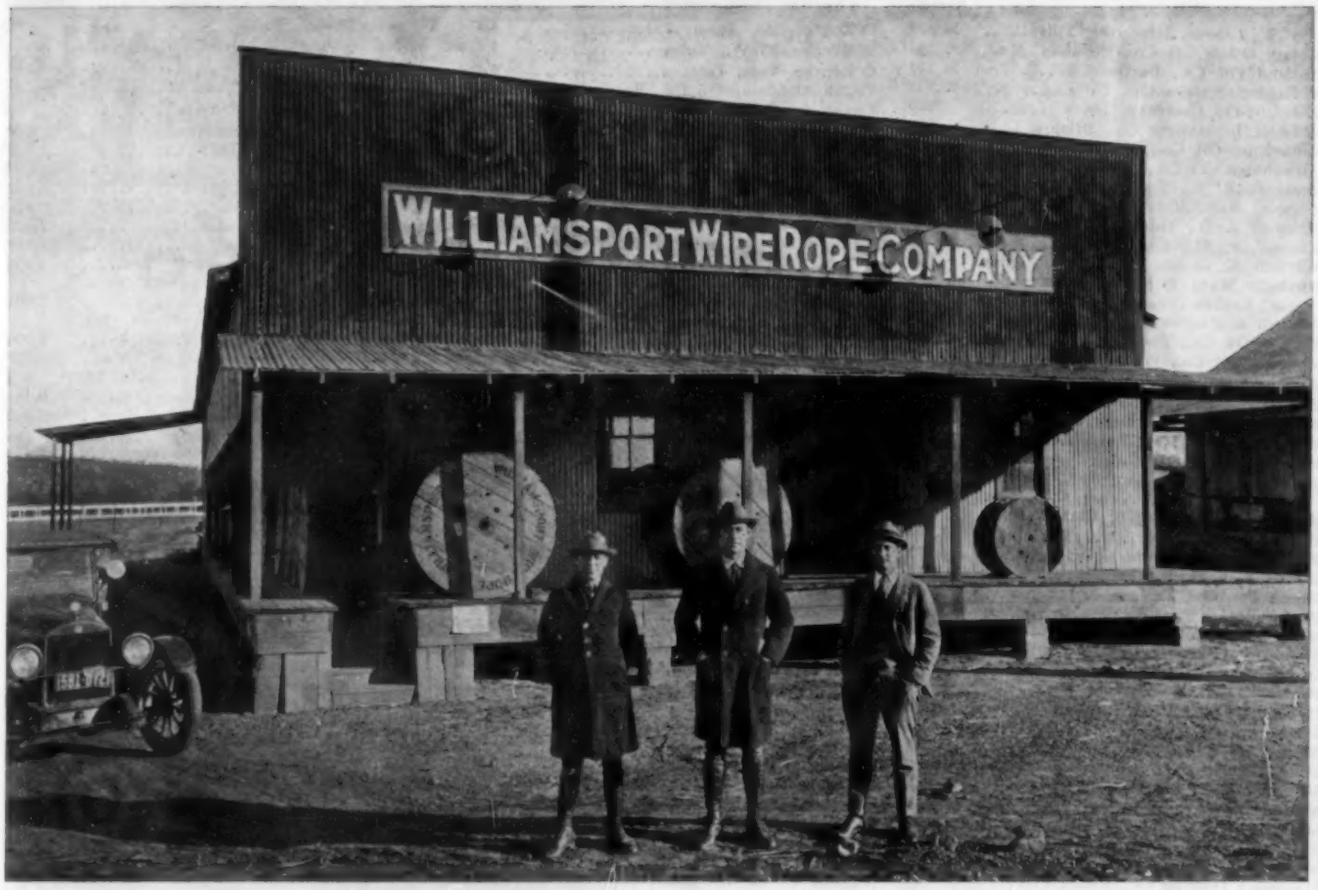

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Company and Location—	Barrels
ry W. Gibson, Receivers, Tulsa.....	51,671
Midget Oil & Gas Co., Republic, Mo.	2,384
Midland Oil Co., Bartlesville.....	56,711
Midland Securities Co., Tulsa	12,963
Midnight Oil Company, Tulsa	289
Midwest Investment Co., Bristow	958
Minnehaha Oil Co., Menasha, Wis. ..	678
Minnehoma Oil Co., Tulsa	20,318
Minshall, E. R., Tulsa	2,696
Minshall Oil & Gas Co., Tulsa	3,605
Misener, F. D., Tulsa	599
Misener, F. D. et al, Tulsa.....	6,726
Mitchell, E. D. and C. D. Jenal, Tulsa	646
Mitchell, Mard D. & Co., Independence, Kansas	669
Mitchell & Murrow, Independence, Kan.	224
Modern Oil Co., The, Wellsville, N. Y.	1,500
Modesitt Oil Co., Okmulgee.....	567
Moffett, John, Okla. City.....	243
Moffett, J. S., Los Angeles, Calif.	299
Mohawk Pet. Co., Tulsa	4,068
Monte Cristo Oil Co., Tulsa	408
Montezuma Oil Co., Tulsa	756
Montrose Oil Ref. Co., Inc., Shreveport, La.	569
Mooney & Holtzendorff, Claremore ..	478
Moore, Clint Tulsa	21,854
Moore, Frank L., Tulsa	6,875
Moore, Mrs. G. E., Tulsa	661
Moore Pet. Co., Tulsa	67
Morley, W. & Son, Bartlesville	300
Morrison & Jackson, Sapulpa	12,610
Morrison, James B., Tulsa	817
Morton & Co., Bartlesville	3,993
Morton Pet. Co., Bartlesville	2,327
Mosely, C. F. & Wife, Bartlesville	3,755
Mosier W. T., Pawhuska	193
Mound Oil & Gas Co., Tulsa	1,715
Mountain Creek Oil & Gas Co., Coweta	88
Mountain State Oil Co., Bartlesville ..	59,252
Mudge Oil Co., Pittsburgh, Pa.	22,370
Mullendore, Bessie, Cleveland	245
Mullendore, E. C., Cleveland	91
Mullendore, R. P., Hominy	139
Mummert Drilling Co., Ponca City...	83
Mutual Oil Co., Denver, Colo.	11,708
Myers, C. M., Tulsa	702
Myers & Twichell, Okmulgee.....	7,060
Myers Oil & Gas Co., Pittsburgh, Pa.	452
Nolan, D. D., Robinson, Ill.	59
Nancy Oil Co., Sapulpa.....	557
National Union Oil & Gas Co., Bartlesville	2,800
Neal, A. W., Bartlesville	37
Neely, The Lemon G. Co., Tulsa.....	7,083
Newbeck, W. L., Marietta, Ohio.....	263
Neustadt, Walter, Ardmore.....	9,713
New Haven Oil Co., Bartlesville.....	1,302
Newlin & Ludey, Tulsa.....	79
New Pocahontas Oil & Gas Co., Okla. City	311
Noble, Chas. F. Oil & Gas Co., Tulsa	25,004
North Baltimore Oil & Gas Assn., Okmulgee	14,694
Northland Gasoline Co., Tulsa	4,976
Northrop, Mary Sells, Tulsa	131
Northrop Oil & Gas Co., Tulsa	515
Northrup, C. M., Farmington, N. M...	172
Norwood Oil Co., New York, N. Y. ..	13,470
Nowata National Bank, Acct. No. 5 Nowata	28
Nowata Oil & Ref. Co., Tulsa	46,165
Niblack, L. G., Guthrie.....	201
Night & Day Oil Co., Lawton	1,001
Obins & Weber, Bartlesville.....	26,507
O'Connor, Martin, Portville, N. Y. ..	784
Octo Oil Co., Bartlesville	431
Odell, C. C., Morris	110
Offenbacher Pet. Co., Tulsa	68
Oglesby, Robert, Tulsa	3,499
Ohio-Osage Oil Co., Ochelata	4,078
O'Hornett, C. J., Henryetta	1,853
Okla. Eastern Oil Co., Tulsa	125,298
Okla-Mexican Oil & Gas Co., Duncan	2,908
Oklahoma Missouri Development Co., St. Louis, Mo.	84
Oklahoma Natural Gas Co., Tulsa	416
Okla-Penn Oil Co., Tulsa	1,312
Okla-Texas Ref. Co., Grandfield	22,849
Oklaken Oil Co., Okmulgee	4,202
Oklausa Oil Co., Jackson, Tenn.....	320
Oklarado Oil Co., Okmulgee	881
Oklavania Oil Co., Tulsa	104,333
Okliana Oil Co., Okmulgee	11,160
Olean Pet. Co., Bristow	11,674
O'Neil Pet. Co., Milwaukee, Wis.	376
Oregon Oil Co., Tulsa	313
O'Rourke, Ed, Tulsa	4,484
O'Rourke, E. W., Tulsa	4,484
O'Rourke, Tom, Tulsa	4,484
Osage Allegheny Oil Co., Bartlesville..	377
Osage Arrow Oil Co., Ponca City....	1,657
Osage Development Co., Bartlesville...	11,141
Osage Prod. & Ref. Co., Bartlesville...	5,156
Oswego Pet. Co., et al, Tulsa	1,083
Otstot Dev. Co., Blackwell	3,859
Ottawa Oil Co., Wellsville, N. Y.	280
Overton, C. H., Tulsa	1,448
Overton, C. H. and G. H. Hurford, Tulsa	1,285
Owl Oil Co., Loco	22,706
Owsley, D. L., Tulsa	1,236
Page, Charles, Trustee, Tulsa	14,871
Page, Charles, Geo. Kinney & C. W. Kingsbury, Tulsa	4,987
Page, Charles, Geo. Kinney, C. W. Kingsbury & C. F. Tingley, Sand Springs	132
Page Oil Syndicate, Clarinda, Iowa ..	1,663
Painter, J. W., Nowata	252
Painter & Stager, Nowata.....	117
Painter, Stager & Higgins, Nowata ..	837
Panama Oil & Gas Co., Holdenville ...	1,850
Panhandle Ref. Co., Wichita Falls, Tex.	1,024
Panther Oil & Dev. Co., Bartlesville	178
Papoose Oil Co., Tulsa	14,570
Paraffine Oil Co., The, Beaumont, Tex.	10,289
Paragon Oil Co., Tulsa	8,574
Parent Pet. Corp., Okmulgee	3,179
Parker, D. F., Trustee, Okmulgee	562
Parks Oil Co., Chelsea	1,046
Parmenter, L. C. and Guy M. Buchner, Muskogee	164
Parmenter, W. L., Lima, Ohio	2,829
Parmenter, W. L., No. 2, Lima, Ohio	430
Parsons, E. E., Okemah	1,668
Patchen, M. C. Estate, Bartlesville ...	888
Patterson, M. R., Bartlesville	5,996
Patterson & Swain, Bartlesville	663
Patton, Guy, Vinita	731
Patton, W. P., Tulsa	249
Pauline Oil & Gas Co., Okla. City....	9,275
Peer Oil Corp., Houston, Texas.....	3,509
Pelham Pet. Co., Tulsa	1,624
Penman Oil & Gas Co., Okmulgee....	12,707
Pennhoma Oil Co., Pittsburgh, Pa. ..	359
Pennsylvania Oil Corp., Warren, Pa...	571
Pennsylvania Oil & Lumber Corp., Warren, Pa.	2,083
Pennok Oil Co., Tulsa	234,487
Pensy Oil Corp., Tulsa	2,457
Periscope Oil Co., Tulsa	289
Peters Oil Co., Tulsa	5,743
Petroleum Co., The and M. H. Mqsier, Tulsa	15,885
Petroleum Company, The, Tulsa	10,560
Phalin, L. P., Okmulgee	685
Phillips & Milam, Chelsea	17,172
Phillips Oil Co., Chelsea	1,608
Phillips Pet. Co., Bartlesville 2,554,999	
Phillips, Waite Oil Co., Tulsa	305,929
Phoenix Ref. Co., Tulsa	4,767
Pilgrim Pet. Co., Tulsa	3,119
Pine, W. B., Okmulgee	90,787
Pirtle Pittman Oil Co., Newkirk.....	1,016
Planters Oil & Gas Co., Jackson, Tenn.	801
Plover Drilling Co., Bartlesville.....	7,150
Plumb, A. O., Depew	1,066
Plymouth Pet. Co., Tulsa	8,130
Plymouth Pet. Co. et al, Tulsa	14,514
Porter, C. R., Tulsa	1,375
Post Oak Crude Oil & Gas Co., Logan, Iowa	1,221
Potter Oil Co., New York, N. Y.....	42,340
Pouder & Pomeroy, Tulsa	448
Prairie Oil & Gas Co, The, Independence, Kansas 1,527,254	
Prairie Oil & Gas Co. for W. M. Graham Oil & Gas Co., Independence, Kansas	10,906
Preisler, F. M., Tulsa	1,290
Preisler Pet. Co., Tulsa	605
Prescott & Snider, Kansas City, Mo..	234
Price, Ernest, Muskogee	171
Prince, C. W., Okmulgee	633
Probst, Geo. C. et al, Tulsa.....	338
Producers & Refiners Corp., Tulsa....	663,481
Prunty, F. O., Blackwell	695
Pulaski Oil Co., Tulsa	22,368
Pure Oil Co, The, Columbus, Ohio....	610,001
Purdy, R. E., Blackwell	134
Purdy Pet. Corp., Tulsa	520
Pyramid Oil Co., The, Winchester, Ky.	9,604
Quinlan, C. P., Tulsa	2,228
Quinlan, Felix, Tulsa	288
Rabbits Foot Oil Co., Davenport, Iowa	14,798
Ranger-Gulf Corp., Tulsa.....	27,229
Reardon, W. E., Okmulgee	84
Rebold Drill. Co., Okmulgee	220
Red Bank Oil Co., Tulsa	81,347
Red, R. D., Tulsa	823
Reed, H. W. Agt., Nowata	653
Reesman, S. S., Tulsa	120
Regal Oil Co., Pittsburgh, Pa.....	2,078
Reinhardt, C. H., Chelsea	1,117
Reliance Oil Co., Beaumont, Tex.....	4,092
Reliance Oil Co. of Oklahoma, Beaumont, Texas	7,901
Reno Oil Co. & E. J. Flynn, Sistersville, W. Va.	2,994
Reno Oil Co., Sistersville, W. Va...	2,297
Republic Oil Ref. Co., Rock Island, Ill.	338
Rex Oil & Gas Co., Winchester, Ky...	9,604
Reynolds, C. E., Trustee, Okmulgee..	3,007
Reynolds, W. G., Okmulgee	43
Reynolds, W. G., Rec., Okmulgee....	1,427
Reynolds Oil & Gas Co., Independence, Kans.	1,135
Rice Creek Prod. Co., Tulsa	362
Rice, T. E. & Frank Brewster, Talala	527
Richards, A. M., Cleveland	1,104
Richards, Geo. R., Cleveland	62
Richards, Homer, Cleveland	69
Richmond Gaso. Co., Tulsa.....	445
Riddle, Mabel L., Est, Marietta, Ohio	62
Ridley, R. C., Okla. City	5,387
Rigdon & Bruen, Kansas City, Mo....	3,855
Rigdon, Geo. R., Kansas City, Mo...	251
Riner, J. J. et al, Nowata	1,162
Riner, J. J. Agt., Nowata	303
Riverland Oil Co., Tulsa	4,014
R. & M. Oil & Gas Co., Hominy ..	809
Robertson, B. H., Nowata	339
Robertson & Garnett, Nowata	241
Robinson, E. L.-Gibson-Zahniser Oil Corp., Tulsa	40,212
Rogers, A. H., Est., The, Webb City, Mo.	1,204
Roland Oil Co., Bristow	9,584
Rollestone, E. H., Trustee	4,540
Rood, Foster & Meloy, Bartlesville....	1,870
Ross, C. O., Coffeyville, Kans.....	689
Ross, Mrs. Alice, Tulsa	39
Ross, Alice H., Tulsa	56
Ross, E. A., Tulsa	18
Roth, C. E., Independence, Kans.....	4,988
Roumania Oil Co., Ardmore	351
Roxoline Pet. Co., Okla. City	758
Roxana Pet. Corp., St. Louis, Mo.....	731,579
Royan Oil Co., Tulsa	1,874
Rubana Oil Co., Wichita, Kans.	691
Ruth Fuel Co., Bartlesville	1,798
Ryan Cons. Pet. Corp., Bartlesville...	28,533
Ryder, Mrs. A. J., Nowata	19
Sammel, J. B. & W. B. Stewart, et al, Robinson, Ill.	397
Sanders Oil Co., Tulsa	1,950
Sanders Oil & Gas Corp., Tulsa	1,704
Sanderson, M. P., Hominy	173
Sandoma Oil Co., Tulsa	9,984
Sandoma Pet. Co., Tulsa	33,798
Sands, Chas. S., Okmulgee	9,451
Sankey Oil Co., Ft. Worth, Texas....	424
Sapulpa Ref. Co., D. L. Owsley & W. L. Walker, receivers, Tulsa.....	6,786
Sargent, Julia C., Tulsa	1,238
Savoy Oil Co., Tulsa	28,598
Sawyer, F. L., Trustee, Independence, Kansas	174
Schermerhorn, J. B., Minneapolis, Minn.	101,416
Schermerhorn-Young Co., Minneapolis Minn.	35,953
Schmidt, Louis & Louisa K., Sapulpa	467
Schoenfeld, C. H., J. F. Milliken, Geo. C. Probst & Karl M. Probst, Tulsa..	774
Schonwald, Dave, Blackwell	3,129
Schroers, H. J., Vinita	289
Scott, Eura, Los Angeles, Calif.....	3,197
Scott Rhyems, Chelsea	624
Seagrove, F. S., Baxter Springs, Kans.	267
Selby Oil & Gas Co., Tulsa.....	40,442
Shaffer, C. B., Chicago, Ill.	1,316
Shaffer, C. B., Trustee, Chicago, Ill...	1,247
Shaffer, Danner & Snowden & McSweeney Co., New York, N. Y.	1,442
Shaffer Oil & Ref. Co., Chicago, Ill...	166,327
Shakely, J. L., Tulsa	108
Shear, Marcus Oil Co., Shear Co., & M. Shear, Bradford, Pa.	1,080
Shearer, R. T., Sapulpa	1,188

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Sheridan Oil Co., Tulsa	21,888
Sheridan Oil Co., Trustee, Tulsa.....	703
Shertzer Bros., Dewey	3,279
Shipman & Lewis, Bartlesville.....	301
Short Grass Oil Co., Norton, Kans. ..	2,377
Short, Posey R., Tulsa	1,262
Shriver, M. W., Tulsa	86
Shriver, M. W., Trustee for Courter, Shriver & Lorton, Tulsa	168
Shulthis, A. W., Est., Independence, Kans.	1,850
Shufflin, M. B., Coffeyville, Kans. ..	1,157
Shuler, Mrs. Clara B., Tulsa.....	73
Shuler, Isaac, Tulsa	79
Shuler & Fischer, Tulsa	2,170
Siaco Oil Co. et al, New York, N. Y.	735
Sidwell Drilling Co., Sapulpa.....	482
Siebler, Ben, Cincinnati, Ohio.....	236
Sigana Oil Co., Cleveland.....	136
Siggins, Shope & Co., Coffeyville, Kan.	586
Silurian Oil Co., St. Louis, Mo.....	81,781
Simack Oil & Gas Co., Wichita Falls Texas	167
Simons, I. D., Tulsa	13,406
Simpson, Fell Oil Co., Ardmore	35,577
Sinclair Oil & Gas Co., Tulsa.....1,333,888	
Sitrin, Sam, Tulsa	26
Skelley Oil Co., Tulsa 2,173,279	
Skelton, L. S., Est., Okmulgee	10,051
Skelton-Moore Oil Co., The, Bartlesville	7,771
Skelly, W. G., Tulsa.....	523
Slick, T. B., Clarion, Pa.	189,116
Slick Oil Co., Tulsa.....	2,625
Sloan, G. W., Tulsa	197
Smith, C. R., Ardmore	14,997
Smith, C. T., Trustee, Okmulgee	2,002
Smith & Daugherty, Nowata	212
Smith, D. M., Okmulgee	6,258
Smith, E. T., & Co., Bartlesville	523
Smith, G. J., Tulsa	44,065
Smith, J. T. & Eugene B., Sapulpa..	243
Smith Oil Synd., Inc., Tulsa.....	209
Smith, Margaret L. & Chas. Robert Jr., Ardmore	10,063
Smith, Mrs. Mary S. & Marie S., Ardmore	15,095
Smith & Steinberger, Tulsa	3,946
Smith, T. K., Tulsa	5,709
Smith, Will H., Trustee, Ardmore....	622
Snowden, Danner et al, Tulsa	3,318
Snowden & McSweeney Co., New York N. Y.	15,660
Southern Investment Co., Bristow . .	6,707
Southern Oil & Gas Co., Coffeyville Kans.	2,711
Southwestern Dev. Co., Bristow	1,916
Southwestern Oil & Gas Co., Independence, Kansas	2,341
Southwestern Pet. Co., Phillip H. Lord Est, Chas. S. Lord & Henry C. Lord, Tulsa	5,240
Southwestern Pet. Co., J. A. Lovell, Paul Lovell & W. T. Hastings, Tulsa	1,678
Southwestern Pet. Co., Tulsa.....	80,722
Speary Bros. & Mills, Marietta, Ohio..	3,898
Speirs, A. J., Jenks	305
Sperata Oil Co., Bartlesville	509
Spindletop Oil Co., Tulsa	1,589
Spring Oil Co., Independence, Kans..	2,413
Stager, J. A., Nowata	628
Stager & Cornelius, Nowata	1,291
Stahl & Horrigan—M. Gorman, Trustee, Ardmore	2,528
Stake Oil Co., Independence, Kans. ..	545
Stalker, C. E., Tulsa	62
Standish Oil Co., Bartlesville	10,025
Stauffer, M. T., Agt., Tulsa	181
Stearns Drilling Co., Okmulgee	790
Steel, J. A., Est.—M. L. Steel, Exec., Beverly Hills, Calif.	2,390
Stein, P. H. & M. S. Musselliem, Muskogee	959
Steinberger, C. A., Tulsa.....	1,823
Steinmeyer, Geo., Tulsa	18,696
Stephens, C. S., Coffeyville, Kans. ..	255
Stewart, C. E., Independence, Kans.	438
Steyner Oil Co., Bartlesville	22,152
Stine, E. M., Tulsa	249
Stine, J. C., Tulsa	249
Stout, W. E., Parkersburg, W. Va....	398
Straight, Preston et al, Bartlesville..	1,931
Stralem, C. I., Tulsa	985
Striker, John H., Tulsa	473
Strozier, Marshall, Ft. Smith, Ark....	2,954
Studebaker, E. H., South Bend, Ind...	320
Sturn, H. L., Ardmore	1,111
Sullivan, M. J., Kansas City, Mo. ...	70
Sullivan & Dickey, Bartlesville.....	1,147
Summit Oil Co., & Sand Fork Gas & Pet. Co., Bartlesville.	928
Sun Gasoline Co., Tulsa	170
Sunbeam Pet. Co., Tulsa	2,236
Sunny Jim Oil Co., Tulsa.....	206
Superior Oil Corp., Lexington, Ky...	61,543
Suppes, C. E., Tulsa	55
Suppes, G. B., R. E. & C. E., Tulsa..	8,114
Suppes & Breslin, Tulsa	3,134
Sutherland Pet. Co., Ardmore	19,110
Sweeney, J. F., Tulsa	512
Sweeney, J. F. & Co., Tulsa.....	11,537
Swindler et al—Papoose Oil Co., Tulsa	18,192
Sykes, C. E., Ardmore	1,703
Taft Oil Co., Independence, Kans.....	2,276
Tait, S. W., Montpelier, Ind.....	646
Terrell Co., The, Terrell, Texas	3,297
Terwilliger, C. H., Tulsa	9,703
Test Oil Co., Bradford, Pa.	5,351
Texas Co., Pro. Dept., The, Tulsa....	675,184
Texas Drilling Synd. No. 3, Duncan..	7,301
Texas-Okla. Invest. Co., Independence Kansas	1,863
Texas Pacific C. & O. Co., Thurber, Texas	112,477
Texas Prod. Co., Independence Kan.	20
Texmex Oil Co., Tulsa	4,164
32nd Oil & Gas Co., Ardmore.....	6,553
Thomas, F. V., Rec., Bartlesville	59
Thompson, J. H., Okmulgee.....	291
Thompson, John L., Tulsa	32
Thompson, J. N., Tulsa	1,219
Thompson, J. H., Wm. M., Roy B., Tulsa	967
Thompson, J. W., Bartlesville	537
Thompson, Milton, Cushing	200
Thompson, M. W., Tulsa	2,615
Thompson, R. D., Okmulgee	32
Thompson, R. D., Trustee, Okmulgee	667
Thompson, W. M., Trustee, Tulsa ...	51
Thompson & Welder, Cleveland	2,200
Thompson & Welder & Neal, Cleveland	3,788
Thurvan Oil Co., Bartlesville.....	689

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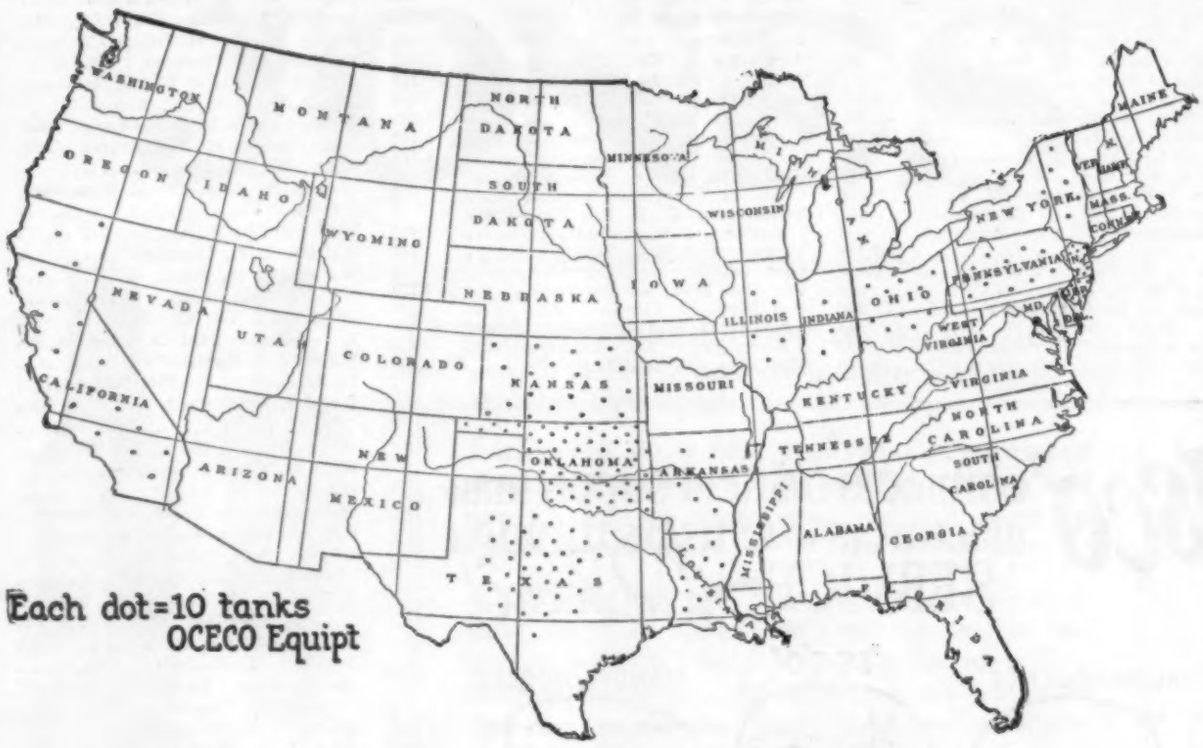

The Vote by States

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Oklahoma	500	New York	50
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Kansas	200	Louisiana	75
California	150	Arkansas	50
Ohio	100	Illinois	50
Pennsylvania	100	Indiana	25

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OCECO Free Tank Vents with Flame Snuffers
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Company and Location—	Barrels
Tibbens, C. G., Tulsa	46,321
Tidal Oil Co., Tulsa	372,261
Tidal Osage Oil Co., Tulsa	281,081
Tiger Pet. Corp., Tulsa	2,767
Tighe, J. P., Arkansas City, Kans.	748
Tighe, J. P., Roy Castle & L. L. Kroh, Arkansas City, Kans.	43
Tighe-Osage Oil Corp., Arkansas City, Kans.	1,097
Titus, C. W., et al, Tulsa	45,535
T. O. Pet. Co., Muskogee	749
Togo Oil Co., Tulsa	305
Tracy, F. R., Tulsa	681
Trainer, J. E., et al, Salem W. Va.	208
Trainer Oil & Gas Co., Bartlesville	469
Transcontinental Oil Co., Pittsburgh, Pa.	187,394
Travis, D. R., Tulsa	6,040
Travis, Wm. W., Tulsa	255
Traywick, N. E., Okmulgee	172
Trefts, John C., Buffalo, N. Y.	644
Trimble & Howard, Trustees, Tulsa	352
Troy Oil & Gas Co., Sapulpa	6,070
Trumbo, A. C., Muskogee	62
Tull Oil & Gas Co., Yale	471
Turley, G. W., Okla. City	458
Turner, T. E. & T. C., Mounds	4,958
Twin State Oil Co., The, Tulsa	397,452
Tyee Oil & Gas Co., Bartlesville	1,325
Tyler, H. F. & Associates, Dewey	336
Unity Oil Co., Tulsa	285
Upp-Walker et al, Tulsa	1,251
Urschel, C. F., Okla. City	6,114
Urschel, Flored S., Okla. City	6,114
U. S. Oil & Gas Co., Tulsa	22,052
Vance, S. E., Tulsa	703
Vandervoort, C. E. Sr., Est.—Frank Hudson, Admr., Pawnee	615
Vandervoort & Hoss, Piatt	767
Van Dall, Geo. I., Bartlesville	66
Van Dall Bros., Bartlesville	1,126
Van Horn, E., Chelsea	230
Van Horn, R. V. Trustee, Clifford Forge, Va.	525
Van Moss Oil Co., Bartlesville	1,219
Van Nostrand, H. I., Trustee, Claremore	68
Vensel, Elliott & Vensel, Tulsa	2,844
Vesta Oil & Gas Co., Kansas City, Mo.	318
Vogler, A. F., et al, Tulsa	392
Vowell-Jackson, Sapulpa	9,923
Wachob, Trumbo & McKay, Muskogee	120
Wah-shah-she Oil Co., Bartlesville	7,704
Waite, Charles L., Los Angeles, Calif.	1,326
Waite, Fannie C., Los Angeles, Calif.	1,326
Waite, M. M., Dewey	717
Walker, P. G. & O. K. Eysenbach, Tulsa	894
Wall Oil Co., Tulsa	1,779
Wallace, J. E., Okmulgee	409
Walling, F. G., Tulsa	34
Walsh Oil Co., Tulsa	7,548
Ward Oil & Gas Co., Tulsa	2,868
Warner-Caldwell Oil Co. Titusville, Pa.	20,716
Warren Co., Bartlesville	143
Washington, J. E., Tulsa	268
Washington Oil Prod. Co., Inc., New York, N. Y.	80
Watchorn Oil & Gas Co., Okla. City	28,137
Watkins, F. E., Trustee, Waurika	1,976
Waxler, R. A., Tulsa	1,895
Weber, Howard No. 5, Bartlesville	1,423
Weber, Obins & Beattie, Bartlesville	591
Weible, H. C., Coffeyville, Kans.	181
Welch Gas & Oil Co., Stillwater	726
Welder, Myerle Est.—G. W. Reynolds Admr., Cleveland	171
Wellsville Oil Co., Wellsville, N. Y.	2,250
Welsh, J. D., Kansas City, Mo.	538
Welsh, M. P., John Welsh & C. T. Dougherty, Nowata, Kans.	336
Wesley, R. D., Norton, Kans.	35
West, L. L., Tulsa	249
West-Hazlett Oil & Gas Co., Independence, Kans.	2,747
Westerly Oil Co., Bartlesville	3,143
Western Natural Gas Co., Tulsa	2,757
Western Oil Corp., Tulsa	10,219
Western States Oil & Land Co., The, Casper Wyo.	4,192
Westheimer & Daube, Ardmore	180,934
Westland Oil Corp., Tulsa	21,401
Wettack, Maude T., Nowata	426
White Eagle Oil & Ref. Co., Wichita Kans.	69,606
White Oil Corp., Houston, Texas	53,569
Whitehill, B. F., Tulsa	1,847
Whitehill, H. J., Tulsa	164
Whitehill, Donovan & Whitehill, Tulsa	596
Whitehill Pet. Co., Tulsa	1,805
Whitehill, Donovan, Hayden & Whitehill, Tulsa	1,100
Whitehill & Glass, Tulsa	1.965
Whittier, M. H., Tulsa	1,027
Wilcox, H. E., Indianapolis, Ind.	113
Wilcox, H. E., R. V. McMullen, Joseph Loriaux & H. G. Wilcox, Tulsa	117
Wilcox, H. F. O. & G. Co., Tulsa	207,503
Wilcox, H. G. & E. M. Oswalt, Tulsa	704
Wilcox, Oswalt & Wilcox, Indianapolis Ind.	415
Wilhoit, J. C., No. 2 Account, Kansas City, Mo.	3,786
Wilkinson, Eugene, Nowata	3,157
Wilson, Hiram C., Tulsa	33,113
Wilson, J. H., Chicago, Ill.	330
Wilson, M. A., Dewey	752
Wineland Oil Co., Boynton	1,481
Winona Oil Co. of Dela., Tulsa	75,912
Winters, M., Independence, Kans.	693
Winters Oil Co., Bradford, Pa.	1,128
Wise & Jackson, Sapulpa	9,981
Wiser Oil Co., Bartlesville	64,797
Withington Oil Co., Dewey	1,271
Wolfe Oil Corp., Bristow	8,346
Wolfe, F., Tulsa	268
Wolfe, Frank Trustee, Tulsa	831
Wolverine Pet. Corp., St. Louis, Mo.	683,881
Wood, T. J., Tulsa	1,580
Wood Oil Co., Tulsa	48,702
Woodard, Geo. E., Nowata	1,226
Woodard, Burkett & Woodard, Nowata	1,174
Woodard & Woodard, Nowata	782
Woodford & Patterson, Independence, Kansas	95
Wright, A. P., Tulsa	1,375
Wright, J. H., Sapulpa	2,417

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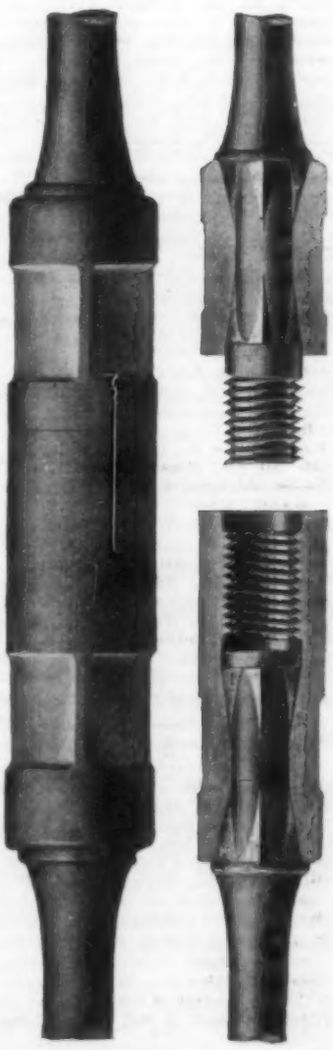

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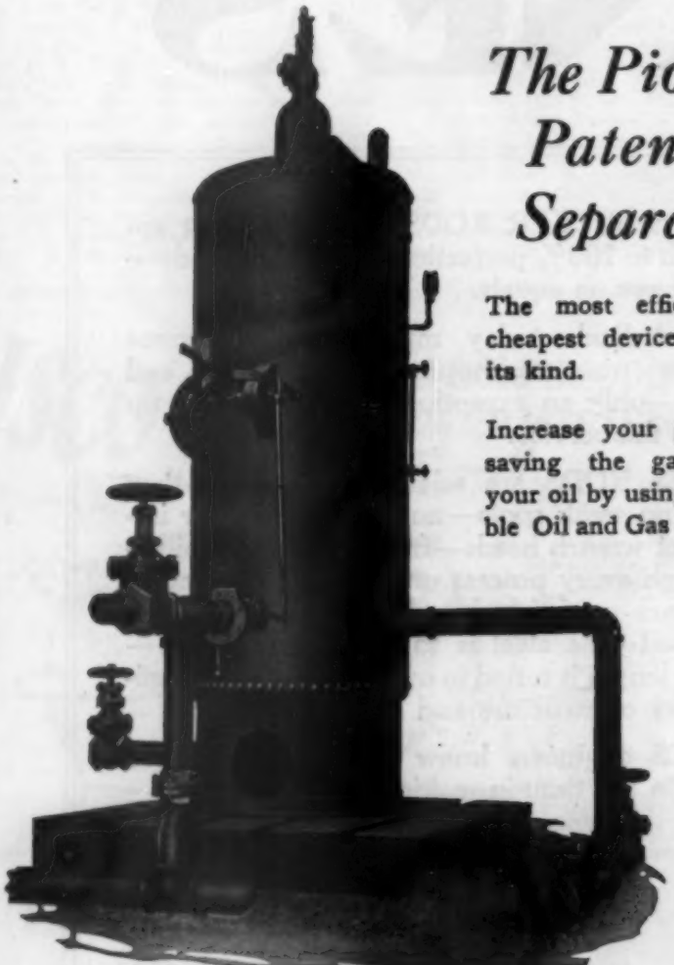

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Wylie, W. J., Bristow	3,467
Young, W. J., Tulsa	545
Young & Wilson, Dewey	123
Zola Oil Co., Tulsa	19,204
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Aladdin Oil Co., Kansas City, Mo.	486
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Bennett, Elizabeth, Tulsa	55
Berry, J. K., Tulsa	55
Berry, R. G., Tulsa	714
Berry, R. H., Tulsa	501
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Bishop Oil Co., Tulsa	292
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Bond, J. R. Oil Co., Okla. City	1,116
Brewer, C. W., Tulsa	1,346
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Celestine Oil Co., Tulsa	10,676
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Helena Oil & Gas Co., Tulsa	2,843
Hermu Oil Co., Tulsa	3,952
Herm Oil Co., Tulsa	3,952
Hilltop Oil Trust, Ardmore	11,250
Holm, Martin H., Chicago, Ill.	227
Jane Oil Co., Rouseville, Pa.	2,239
Kansas-Oklahoma Cons. Oil Co., Minneapolis, Minn.	774
Kansoma Oil & Gas Co., Tulsa	220
Kline & Brann, Inc., Tulsa	5,787
Lasoya Oil Co., Attoona, Pa.	2,006
Latona Oil Co., Tulsa	499
Love, L. H., Ardmore	4,587
Lubell, Jacob J., New York, N. Y.	220
McKeown & Cuckow, Ada	537
McMahon, C. L., Okmulgee	4,231
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Majestic Oil, Gas & Ref. Co., DuQuoin Illinois	1,007
May, Max, Tulsa	82
Merrick, F. W., Ardmore	7,410
Midland Oil & Drill. Co., Oil City, Pa.	345
Mid-State Pet. Corp., Ponca City	427
Morton Oil & Gas Co., Pittsburgh, Pa.	309
Murphy Oil Co., of Pennsylvania, Philadelphia, Pa.	137
Murry, John Y., Tulsa	718
New England Oil & Pipe Line Co., Boston, Mass.	33,156
Nyanza Refining Co., Wilson	2,354
O'Connor, Dennis & Sarah, Butler, Pa.	268
Oklahoma Prod. & Ref. Corp., Columbus, Ohio	347,827
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Priddy, W. M., Wichita Falls, Texas	1,389
Redoak Oil Trust, Ardmore	12,453
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Smith, Samuel H. Oil Co., Tulsa	504
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Swanson, Fred & John, & Dan Kelly, Chanute, Kans., & Marietta, Ohio	2,279
Thurmond, T. A., Ardmore	4,587
Twin Hills Oil & Gas Co., Tulsa	2,216
Tyrrell, H. C., Tulsa	527
U. S. Cities Corp., Tulsa	104,309
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Williams, P. R., Wynona	9,108
Winemiller, J. H., Tulsa	5,293
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Promote Safety and Reduce Time Losses

When safety rules and instructions are not heeded accidents often occur

LAST week in the article devoted to accident prevention, we discussed the fifth cause of accidents which is classified by the Texas Petroleum Safety Council as protective devices not used. This week we take the sixth cause which is listed as rules and instructions not observed.

It has not been accurately determined just how far this cause has contributed to oil field accidents, but it is reasonably safe to assume that many accidents happen as result of instructions not carried out or rules unobserved. For instance, not long ago a derrick was destroyed in the Rock Creek field of Oklahoma by a fire started from a cigarette, although a rule prohibiting smoking was supposed to be in force.

Somehow or other man rebels at the idea of "don'ts" and for this reason it is often difficult to arrive at a set of rules which are satisfactory. It would be ideal if some sort of a handbook with instructions that might apply to all fields in the country could be adopted. If such a book could be worked out, it would mean that an employee working in Pennsylvania would know what rules to observe should he change his working place to a Texas field. No doubt different conditions determine the kind of rules to be applied, but it seems that there are certain general rules which might be made applicable to every oil field. For instance, the following might be suggested:

Although it is hardly reasonable to absolutely prohibit smoking, no doubt some sort of regulation regarding smoking ought to be in force in all fields.

Matches in the hands of responsible people seldom do harm, but if they are left in places where by their being struck, great damage can be done, it is hardly justifiable that they be left there. Many accidents might be prevented altogether by some sort of regulation governing the carrying of matches about oil fields.

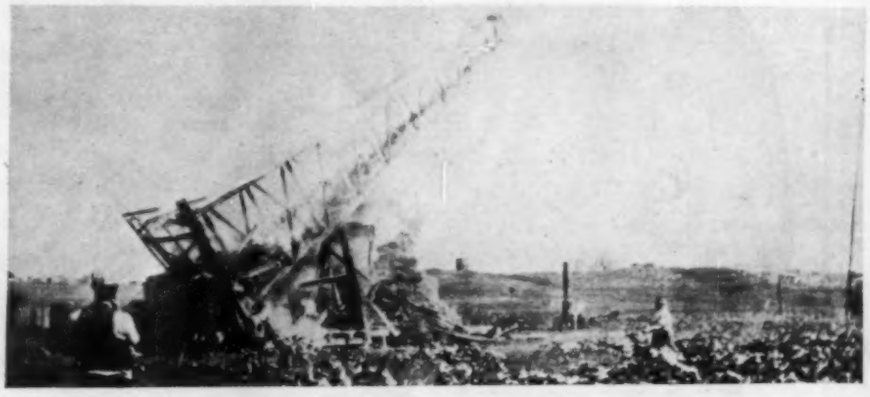
Rules should prevent employees entering tanks which have not been proved to be free of gas. If for any reason an employee has to go into a tank, he should wear a gas mask.

Riding the traveling block in going up or coming down from the top of the derrick should be prohibited.

Benefits from wearing a derrick belt have been mentioned before, but it is well to emphasize this point again. A rule covering this would not be amiss.

There are many other hazards which would be reduced if they were regulated by rules, but these suggested might form the basis upon which to start a handbook. One company has a booklet called "Information for Employees," which has been found satisfactory. This booklet contains a set of rules and instructions which this company uses wherever it operates. One rule states that an employee who is found asleep on duty will be discharged without further ceremony. This rule is emphatic. It is direct, and offers no halfway ground. But the consequences of an employee's sleeping on duty might be extremely grave. For instance a whole battery of stills might blow up because of neglect. Such a rule carries its own reason for being and is therefore a good rule. When it becomes necessary to make a rule, the reason for such a rule ought to be apparent.

When rules are made they ought to be enforced. One of the chief characteristics of a good foreman is that he enforces all rules and regulations. Employees should always be instructed thoroughly in the hazards offered by the particular work in which they are engaged, but they should also be informed as to what will happen when rules are violated.



What a cigarette did. This well was a gasser. There was a sort of rule in existence in this field to prohibit smoking within a certain radius of the wells, but evidently this rule was not well enforced

Using Shots for Removal Of Paraffin in Oil Wells

Washington, D. C.—Petroleum engineers of the Department of the Interior, on the staff of the Bureau of Mines, have made preliminary investigations into the matter of removal of paraffin and similar residues from oil wells. I has been found that the most successful and positive method of removing these residues from the face of an oil sand is by shooting. This probably gives the combined effect of melting and burning the paraffin and breaking down the face of the sand, accompanied by more or less fracturing. Ordinarily squib shots are placed in the hole in one and one-half inch shells, which are in reality so-called anchor shells for full sized shots. From five to 10 quarts of nitroglycerin is about right for sands varying from 15 to 40 feet thick.

Generally as much glycerin would be placed opposite the producing sand as would be contained in a one and one-half inch shell, having a length of about three-fourths of the thickness of the sand. If the well is drilled below the oil sand, the shot should be anchored so as to be set opposite the sand, or the hole bridged and the shot placed on the bridge. In either case the hole should be filled with water at least to a level above the shot so that the force of the shot will not be wasted.

It is also necessary that the operator use care in shooting, lest he damage his casing.

Too heavy and too frequent shooting hastens the enlargement of the shot cavity and causes the excess caving of soft sand that must be cleaned from the hole. The continued enlargement of the shot cavity renders further shooting ineffective except as it causes more caving. In some fields shooting tends to damage the wells by tightly packing the sands. Again, casing seated close to the top of the oil sand may render shooting impracticable. Conditions such as these call for other methods of removing paraffin.

Well Records Prove Value in Operation

Washington, D. C.—To determine the source of water in a well often requires careful study of the records of the well producing water and of neighboring wells, in addition to the usual field tests, state Department of the Interior investigators in Bulletin 232 of the Bureau of Mines. Well records, to be of greatest value, should be accurate and complete. Failure to recognize this fact has frequently been costly to oil operators; however many operators still fail to realize the necessity for accurate records, and consequently when extensive repairs must be made are handicapped by not having exact histories of their wells. Well records are of prime importance in studying water problems and constitute the basis on which a complete survey is made. When augmented by actual field tests and data on repairs, well records often simplify and hasten the solution of difficult water problems that might otherwise defy all efforts toward correction. Because of the vital importance of complete and dependable records, the government requires all lessees to file with the Bureau of Mines essential data pertaining to the drilling and operation of all wells on government land.

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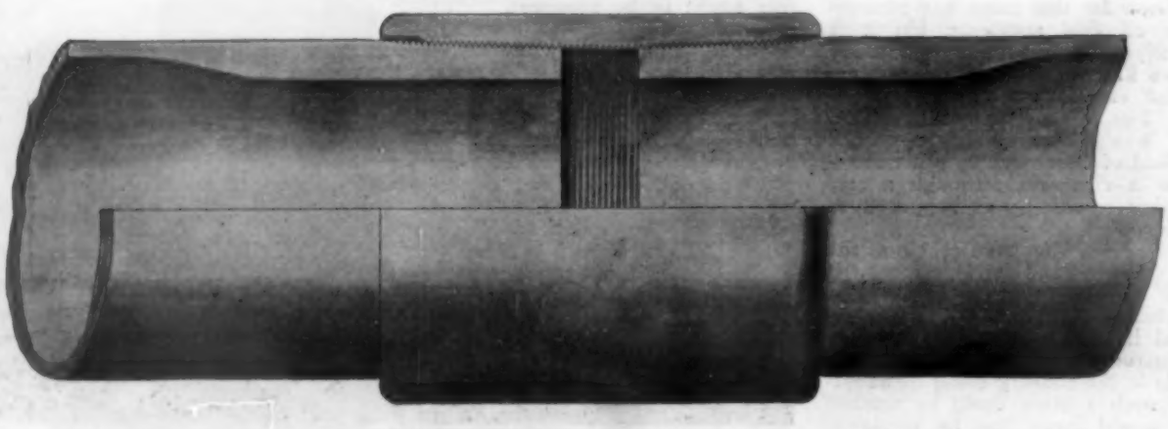

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PERSONAL MENTION-MEN YOU KNOW

J. A. Haliburton, formerly of Burkburnett, has arrived at Humble to assume supervision of the drilling and production activities of the Invincible Oil Company in that district. He succeeds Chas. W. Brown, who has represented the Invincible Oil Company in the Humble district for many years. Mr. Brown has resigned to devote his attention to the oil interests of his sister, Mrs. Niels Esperson, widow of the founder of the Invincible Oil Company.

R. E. Whiting, drilling superintendent in charge of operations of the Atlantic Oil Producing Company in the Smackover and Stephens County, Arkansas, fields, with headquarters at Magnolia, Arkansas, visited the district offices of the Company at Dallas late last week.

Wm. E. Cain, formerly drilling superintendent for the Atlantic Oil Producing Company in the Mexia and Corsicana-Powell fields, has resigned to become general superintendent for the Boyd Oil Company, which is headed by Col. A. E. Humphreys.

F. H. Wickett, president of the Dixie Oil Company, producing subsidiary in the Mid-Continent of the Standard Oil Company (Indiana), is away from his offices in Chicago on a tour of the field.

Dr. C. B. C. Comfort, president and treasurer, and E. G. Pfahl, secretary of the Southwestern Oil and Refining Company of Rochester, New York, were in Independence, Kansas, recently.

Minor McDougle, well known Mid-Continent oil operator, died at his home in Coffeyville, Kansas, February 5. He was born in Lima, Ohio.

J. S. Irwin of the geological department of the Producers and Refiners Corporation, has moved his headquarters for the winter, from Casper, Wyoming, to Denver, Colorado.

J. E. Loveall has been appointed production foreman in charge of the Louisiana Oil Refining Corporation's properties in the Bellevue field. He succeeds D. T. Harrington, who goes to the Burkburnett district to take charge of the properties of the Montrose Oil Refining Company, Inc.

L. M. Fanning has resigned as director of the division of Publicity and Statistics of the American Petroleum Institute, to accept a position as staff representative for the Oil and Gas Journal, with headquarters in New York City. Mr. Fanning also plans the establishment and direction of a Petroleum Information Bureau.

Henry C. Morris, chief of the petroleum section, Bureau of Foreign and Domestic Commerce, Department of Commerce, has resigned to go into private business. Mr. Morris has been head of the department since soon after it was organized.

F. E. Spencer has been elected president of the Lucey Manufacturing Corporation to succeed Capt. J. F. Lucey, on approval of the company stockholders.

CAPTAIN HARRY A. HASSAN, JR.
Manager of the Dallas office of the Sinclair Refining Company, has been appointed European representative for Sinclair Refining Company's exporting division, and is to sail from New York City about April 1, accompanied by his wife, to make his headquarters at Paris

D. S. Bushnell was re-elected president of New York Transit Company at its recent annual meeting in New York.

Col. A. E. Humphreys, president of the Boyd Oil Company, departed from Dallas February 2 for his home in Denver, Colorado, after holding a conference with other officials of the Boyd Oil Company, consisting of the following: Julius Fohs, vice president; F. W. DeWolf, manager of the Dallas office and actively in charge of the geological department; and Judge C. F. Clay of Denver, and Judge J. A. Elkins of Houston, both attorneys for the company. After the conference a wildcat test for Kaufman County section of East Central Texas was announced.

From the team of the famous Boston Red Sox to a responsible position with an oil company is a part of the career of E. L. Caldwell, employed by the Union Oil Company of California. Four years ago Caldwell left the Red Sox to accept a position with the Union Company at Brea, California. Recently he was transferred from the office at Brea to become assistant to M. F. Robertson, supervisor of field offices and warehouses, with headquarters in Los Angeles.

E. G. Sinclair, production superintendent of the Midwest Refining Company, has returned to Casper, Wyoming, from a trip to Portland, Oregon.

B. Frank Wood has been re-elected president of the Invader Oil Corporation at the annual meeting recently held in Muskogee, Oklahoma.

F. W. Edwards, formerly sales manager for the Rossendale-Reddaway Belting and Hose Company, is now connected with the Whitlock Cordage Company of New York.

H. T. Horton of the Chicago Bridge and Iron Works with headquarters in that city recently was on a business trip through the Rocky Mountain territory.

H. L. Clears, who has been located at Kewanee, Illinois, for the Walworth Manufacturing Company, is now representing the company in the Rocky Mountain section with headquarters with the Frick-Reid Supply Company in Casper, Wyoming.

E. E. Bryner of Custer City, Pennsylvania, well known Eastern oil operator and interested in Rocky Mountain development, has returned to Pennsylvania after a stay in Casper, Wyoming.

M. L. Benedum, chairman of the board of Transcontinental Oil Company with headquarters in Pittsburgh, Pennsylvania, has been on a business trip to Chicago.

Friends of the Myrick Machine Company, Olean, New York, will regret to learn of the death of Alfred Tothill. Mr. Tothill served as president of the Myrick organization for more than 37 years. He died January 17, 1924.

M. E. Wilson, C. C. Hummer, and P. T. Mize, of the drilling and producing department of the Invincible Oil Corporation (Louisiana Oil Refining Corporation and Invincible Oil Company) spent Monday and Tuesday of this week in Houston, Humble and Blue Ridge in connection with a resumption of drilling activity by the Invincible in the Humble field.

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BETTER BE SAFE THAN SORRY

Say you saw it in The Oil Weekly

FIELD NOTES AND PRODUCTION STATISTICS

Shortage in California May Come in 1925

Production hardly equals indicated consumption at this time—New big fields would save situation

Los Angeles, Calif., Feb. 9. — The prediction is being freely made that California will be forced to import gasoline and some of the refineries may ship in crude during the summer of 1925, unless new fields with outputs of considerable size are found and developed before that time.

It is estimated that shipments during February will run around 150,000 barrels a day. With the refineries taking around 420,000 barrels a day, it is indicated that 570,000 barrels of crude oil will be needed during the month. It is doubted very much if this much production will result. Thus there will be a continued withdrawal from storage.

Most of the crude contracts now in existence will run most of the year and next December the shipments will exceed 75,000 barrels a day. Naturally during that time the production will continue to decline and further and heavier withdrawals from stocks will result. The consumption of gasoline this year and next will surely exceed the figures for 1923 and the burden will fall on the larger refineries with plenty of crude at hand. The smaller plants are finding it hard even now to get crude. It will be even harder as time goes on with the production continuing to fall.

Within another sixty days it is doubted if a well will be closed in in the state, except where it is found impossible to pump them. When old leases are restored, it is not unusual for them to show a production slightly greater than when shut in. But they soon settle and later fall below the old production level. At this time the decline in the state is in the Los Angeles Basin, but the opening of old wells keep the decline from being so great for the whole state. When all of the old leases have been restored to production the production will continue to decline, probably at even greater average.

Opening of new fields with large productions could save the situation. But the finding of new fields and bringing the production up to a considerable figure is a job requiring more than a year's time in most instances. The Compton field can be expected to help to keep up the state's total production, but the field is progressing very slowly and is now producing only 1250 barrels daily, several months after the discovery of the field. Within another month at least two and probably three additional wells should be on production. But what they will produce is pure guess work.

CALIFORNIA FIELD OPERATIONS

The following table from statistics compiled by State Oil and Gas Supervisor R. D. Bush for California for the past several weeks gives a true insight into field activities:

Month ending—	New wells started	Water shutoff tests	Deepening jobs	No. wells aband.
*June	120	195	59	22
July	94	145	46	23
*August	96	141	41	26
Sept.	122	194	39	36
October	114	131	38	25
November	100	151	48	23
Week ending:				
December 1	18	41	7	9
December 8	15	44	5	10
December 15	26	32	10	5
December 22	23	36	5	1
December 29	23	28	10	7
January 5	34	22	18	3
January 12	24	27	6	10
January 19	33	33	10	7
January 26	29	29	14	3
February 2	31	18	12	12

*Five weeks in month.

Torrance Looks Better

Things are looking a little better at Torrance. During the past week the production showed an increase of about 250 barrels a day and the wells that have gone on the pump are showing up

(Continued on page 54.)

Imports of Petroleum at Principal United States Ports

The following figures represent the total imports of crude oil for the month with the current month given by weeks:

	Atlantic Ports						Gulf Coast Ports					
	Baltimore	Boston	New York	Philadelphia	Others	Total	Galveston	N. Orleans Baton Rge.	Port Arthur Sabine Pass	Tampa	Total	Total at All Ports
January	475,000	745,115	1,636,020	641,006	1,163,120	4,760,155	1,053,000	733,284	1,182,654	40,000	3,011,953	7,772,108
February	421,000	553,510	1,163,971	570,329	1,150,819	3,859,429	1,079,000	951,818	1,019,000	167,000	3,216,818	7,076,247
March	265,000	450,000	2,020,139	848,000	1,406,577	5,045,924	1,857,900	1,611,794	1,453,000	240,000	5,162,794	10,208,718
April	370,000	669,000	1,074,000	625,000	591,000	3,319,000	1,615,000	1,020,000	1,135,000	168,000	4,362,500	7,681,500
May	344,000	515,000	1,026,000	437,000	615,000	2,937,000	1,351,000	910,000	1,184,000	127,000	3,582,000	6,519,000
June	314,000	421,000	1,791,000	755,000	809,000	4,090,000	1,515,000	1,142,000	1,062,000	229,000	3,948,000	8,038,000
July	287,000	465,000	1,806,000	448,000	898,000	3,876,000	1,471,000	1,120,000	833,000	92,000	3,516,000	7,392,000
September	268,000	565,000	1,744,000	660,000	686,000	3,923,000	1,776,000	1,397,000	880,000	224,000	4,277,000	8,202,000
October	365,000	292,000	1,194,000	536,000	816,000	3,203,000	988,000	1,330,000	380,000	50,000	2,248,000	5,951,000
November	223,000	395,000	1,194,000	576,000	757,000	3,145,000	1,478,000	1,000,000	551,000	111,000	3,287,000	5,432,000
December	474,000	574,000	1,243,000	606,000	1,024,000	3,917,000	2,019,000	1,832,000	933,000	259,000	5,043,000	8,960,000
January	398,000	531,000	1,060,000	376,000	949,000	3,314,000	1,295,000	887,000	689,000	15,000	2,936,000	6,250,000
Feb. 2	166,000	60,000	50,000	113,000	130,000	519,000	469,000	353,000	.....	104,000	926,000	1,445,000

NOTE—Figures by American Petroleum Institute.

Receipts of California Oil at Atlantic Coast Ports

The following shows the receipts of California oil at Atlantic Coast ports by months with the current month given by weeks:

	Atlantic Ports						Gulf Coast Ports					
	Baltimore	Boston	New York	Philadelphia	Others	Total	Galveston	N. Orleans Baton Rge.	Port Arthur Sabine Pass	Tampa	Total	Total at all Ports
March	442,000	184,000	1,355,000	496,000	615,000	2,691,000	.....	.....	.....	.....	.....	2,691,000
April	105,000	256,000	2,456,000	502,000	320,000	3,639,000	.....	478,000	.....	.....	478,000	4,117,000
May	444,000	72,000	1,259,000	764,000	964,000	3,553,000	.....	300,000	53,000	.....	353,000	3,906,000
June	521,000	160,000	3,206,000	826,000	808,000	5,821,000	.....	664,000	.....	.....	664,000	6,485,000
July	443,000	75,000	2,068,000	741,000	699,000	4,080,000	.....	559,000	.....	.....	559,000	4,639,000
August	329,000	229,000	2,956,000	836,000	683,000	5,033,000	.....	970,000	70,000	.....	1,040,000	6,073,000
September	1,028,000	237,000	2,581,000	621,000	443,000	4,910,000	.....	703,000	.....	.....	703,000	5,613,000
October	779,000	224,000	2,503,000	779,000	429,000	4,714,000	.....	746,000	.....	.....	746,000	5,460,000
November	591,000	155,000	2,302,000	584,000	271,000	3,903,000	.....	935,000	.....	.....	935,000	4,838,000
December	454,000	215,000	2,901,000	813,000	753,000	5,136,000	.....	729,000	.....	.....	729,000	5,213,000
January	619,000	77,000	2,802,000	659,000	503,000	4,660,000	.....	615,000	.....	.....	615,000	5,275,000
Feb. 2	75,000	.....	525,000	143,000	.....	743,000	.....	245,000	.....	.....	245,000	988,000

NOTE—Figures by American Petroleum Institute.

Average Daily Production for all U. S. Fields

Oklahoma

	This Week	Last Week
Burbank	104,915	98,980
Bristow	51,700	50,620
Tonkawa	38,600	38,835
Cushing	25,900	25,850
Osage (outside Burbank)	24,600	24,420
Okmulgee	22,750	22,500
Hewitt	21,700	21,570
Healdton	13,100	13,000
Wewoka	9,210	9,015
Duncan and Walters	6,850	6,900
Other fields	87,000	86,900
Totals	406,325	398,455

Kansas

Eldorado	16,750	16,800
Greenwood	13,800	13,850
Elbing and Peabody	10,000	10,050
Fox-Bush	6,000	6,170
Blankenship	3,450	3,500
Augusta and Douglas	3,650	3,500
Florence and Covert	2,950	2,850
Leon and Weaver	1,280	1,285
Other fields	9,890	9,780
Totals	67,770	67,775

Louisiana

Haynesville	21,210	21,710
Caddo	10,925	11,100
Homer	8,510	8,610
Bellevue	5,135	5,495
Vinton	5,370	5,450
Bull Bayou	5,400	5,425
Elm Grove	1,035	1,060
Evangeline	540	475
Edgerly	465	400
Anse Le Butte	20	20
Totals	58,610	59,745

Arkansas

Smackover	95,900	93,660
El Dorado	14,715	15,160
Stephens	2,760	2,740
Irma	1,030	1,040
Totals	114,405	112,600

California

Los Angeles, Calif., Feb. 9.—The daily average production for the California fields for the past week compared with the previous week, together with number of producing wells last week in five Southern fields, was divided about as follows:

	Last Week	Prod. Wells	Prev. Week
Long Beach	229,000	353	232,500
Santa Fe Springs	119,250	299	125,125
Huntington Beach	62,500	251	63,500
Torrance	31,500	133	31,250
Compton	1,250	1	1,200
Others	238,250	...	231,425
Totals	681,750		685,000

Denver, Colo., Feb. 11.—E. T. Wilson, president of the Continental Oil Company, likely will be made chairman of the board of Mutual Oil under the plan of consolidation and S. H. Keoughan, present chairman of Mutual, to be president of the merged concern.

Santa Fe, N. M., Feb. 11.—It appears likely that another auction sale of oil and gas leases on Navajo Indian lands in Northwestern New Mexico will be authorized shortly by the United States government. H. J. Hagerman, Navajo Indian commissioner, now is in Washington.

London, Eng., Feb. 4.—Cable advices from Cologne are that Harry F. Sinclair has concluded arrangements for delivery of oil to Hugo Stinnes, German industrial leader.

Texas

NORTH CENTRAL

	This Week	Last Week
Corsicana-Powell	106,035	104,005
Mexia	35,590	35,140
Burkburnett	22,205	21,560
Stephens County	20,075	20,455
Archer County-Holliday	20,710	20,870
Electra	19,395	19,995
Desdemona-Gorman	7,360	8,085
Ranger-Eastland	7,405	6,750
Young County	4,360	4,675
Currie	3,290	3,290
Moran-Shackelford County	3,405	3,685
K-M-A	1,365	1,350
Iowa Park	1,450	1,050
Strawn-Palo Pinto County	955	850
Mitchell County	785	785
Brown County	350	355
Petrolia-Clay County	305	350
Carson County	220	225
Reagan County	155	70
Coleman County	140	145
Richland	130	1[illegible]
Thrall-Williamson County	80	75
Jack County	35	35
Total	255,800	253,935

GULF COAST

Hull	27,550	22,500
West Columbia	14,150	13,660
Goose Creek	13,500	13,475
Orange	10,135	11,125
Humble	5,280	5,280
Sour Lake	4,850	4,850
Damon Mound	1,645	1,645
Saratoga	1,590	1,580
Batson	1,135	1,130
Spindle Top	830	850
Pierce Junction	690	725
Blue Ridge	665	570
Richmond	600	20
Barbers Hill	275	275
Nacogdoches	110	110
Markham	90	75
Dayton	65	65
Stratton Ridge	50	50
High Island	30	35
Big Hill	20	20
Total Gulf Coast	83,260	78,040
Total North Texas	255,800	253,935
Luling (Caldwell County)	18,000	15,000
Mirando	6,000	6,000
Somerset	3,025	3,050
Rockdale-Minerva	475	475
Total for Texas	366,560	356,500

Condensed U. S. Production for Twelve Months

(Stated in Barrels)

This table is carried each week by The OIL WEEKLY, and shows daily production average for each state or section. Figures for Oklahoma, Kansas, Texas, Louisiana, Arkansas and Mountain States are compiled by The OIL WEEKLY, while estimates for California and Eastern States are furnished by the American Petroleum Institute.

Daily average for month	*Mid-Continent	North Central Texas	Texas Coastal	†Texas Total	Kansas	Okla.	Louisiana	Eastern States	Wyoming-Montana	Calif.	Ark.	U. S. Total
August	726,981	217,208	105,966	323,148	89,998	419,775	97,936	120,750	83,938	375,000	28,834	1,618,765
September	716,107	207,467	107,790	314,932	89,760	418,880	101,857	114,200	80,490	387,000	33,135	1,540,371
October	714,906	200,465	115,130	316,370	90,404	424,037	97,502	116,375	86,412	423,750	34,127	1,489,003
November	711,521	199,223	114,130	388,376	91,098	421,200	93,410	116,375	106,092	450,000	77,225	1,668,776
December	692,702	170,187	111,819	242,010	87,508	435,007	86,513	114,900	108,679	484,000	107,732	1,722,349
January (1923)	708,372	184,885	115,628	304,790	86,720	436,767	81,205	113,500	123,254	517,500	111,920	1,770,645
February	712,007	180,364	96,984	286,493	85,298	446,345	78,068	112,500	110,328	587,500	101, 346	1,805,496
March	720,287	184,582	89,873	283,355	86,012	449,693	75,332	109,900	118,580	653,000	108,630	1,888,522
April	756,381	192,148	92,320	293,780	86,133	478,100	76,854	424,000	127,860	711,250	102,099	1,983,026
May	793,774	203,776	90,905	304,032	85,500	504,498	75,368	109,125	125,680	700,125	109,033	2,010,840
June	824,297	217,162	92,240	320,250	85,255	521,880	72,745	110,300	129,559	773,000	133,592	2,159,818
July	866,665	274,330	91,795	378,335	84,785	508,405	70,085	113,000	137,300	851,000	132,395	2,275,305
August	826,982	278,574	94,398	393,780	82,741	464,416	68,739	112,625	137,909	866,250	123,000	2,251,966
September	830,517	371,730	93,649	443,461	77,078	421 763	68,935	108,400	157,742	857 700	127,955	2,269.176
October	876,059	408,036	84,820	511,483	71,362	371,657	65,305	107,750	139,912	823,125	125,145	2,240,741
November	935,975	479,383	82,747	580,700	69,337	387,253	64,701	108,125	151,225	768,275	124,188	2,253,806
December	729,391	283,130	78,033	378,478	68,444	378,017	61,138	110,300	146,770	723,845	120,049	1,987,841
January	685,540	243,120	75,085	334,485	67,815	374,605	59,125	108,000	144,735	698,965	114,255	1,900,985
February 2	720,165	253,935	78,040	351,500	67,775	398,455	59,745	107,500	140,100	685,000	112,600	1,922,675
February 9	729,895	255,800	83,260	366,560	67,770	406,325	58,610	104,000	140,000	681,750	114,405	1,939,420

*Includes North-Central Texas, Kansas, Oklahoma.
†Beginning February, 1923, Somerset, Mirando, Rockdale and Luling production included.
NOTE—Mexia production included in North Central Texas.

(U. S. Completions Begin on Page 57)

With Flush Gone Old Fields Aagin to Front

(Continued from page 20.)

4¼ inch casing, the well coming in "bare foot", without any perforated pipe in the well. This well has been estimated by petroleum engineers for the large companies to be capable of making several thousand barrels of oil per day. This well is now the largest flowing well in the San Joaquin valley, having averaged 3000 barrels per day for 90 days, with no decrease in production. The pressure on this well flowing is higher than any other well in Kern County, and also is higher than any well in Southern California brought in under similar conditions—that is, brought in with no perforated casing, coming in "bare foot", and being only about one foot in the oil sand. If this well had come in out of control it would have been known as another Lakeview gusher.

The whole Maricopa Sunset field, since this well came in, has become the center of a revival of interest in oil development. The extension of the famous Maricopa Flat field several miles southeast toward the Wheeler Ridge is predicted by the petroleum engineers and geologists, and they are looking for the development of a second Santa Fe Springs in the extension of the Maricopa Flat. In this extension of the Maricopa Flat, about half of the land is held by the Pacific Oil Company, and the balance is to a large extent government land on which prospecting permits have been issued. The Belridge Oil Company, the United Oil Company, the Calitroleum Oil Company and the Pacific Oil Company and the Standard Oil Company hold the land adjacent to the Transport property. These companies are now nearly all drilling or starting new wells.

About three quarters of a mile further east, E. G. Lewis is drilling two wells, and the formations are checking up about 500 feet deeper than the Transport "gusher." Adjoining the Lewis wells are several government permits that are being taken over by prominent oil companies.

This new extension of the Maricopa Flat promises to be the first large high gravity gusher field in Kern County in 1924.

Macwhyte Company Appoints Mid-Continent Representative

Kenosha, Wis., Feb. 9.——E. E. Carter, until recently salesman with the D. F. Connolly Agency, Inc., in Tulsa, and formerly connected with the Continental and Oil Well Supply Companies, has been appointed representative in the Mid-Continent oil country for Macwhyte Company of Kenosha, Wisconsin, manufacturers of wire rope. For the time being offices of Mr. Carter in Tulsa will be at 1433 South Peoria.

Macwhyte Company is well known throughout the oil fields and is one of the large wire rope manufacturing companies in the United States.

Mr. Carter recently was at company headquarters at Kenosha where he conferred with Macwhyte officials in regard to the Mid-Continent sales territory which will comprise Kansas, Oklahoma, Texas, Louisiana and Arkansas. He has had considerable experience in oil country sales and numbers among his friends and acquaintances oil men scattered throughout this section.

A Study in California Crude Prices, 1913-1923

A STUDY of crude prices in California, covering the years from 1913 to 1923, shows surprising variations. During the year of 1914, prices on all gravities were declining. High gravity crude reached the very low price of 62½ cents per barrel, and lower gravities went as low as 48 cents per barrel.

This slump was halted early in 1916. Posted prices on all gravities increased from five to 18 cents per barrel. This increase was steadily maintained over a period of three years: In 1920, the posted price of the best grades reaching as much as $2.58 per barrel, and $1.60 for the lower gravity oil. The highest prices were posted in July, 1920, when 14 gravity oil brought $1.60 per barrel, and 35 gravity and above sold for $2.95 per barrel.

The peak of crude prices on the West Coast was apparently reached during 1920, for 1921 brought decreases which continued over the greater part of the three years following. In October, 1923, there was a slight margin only between crude prices then and in November, 1913. Prices last year averaged a few cents lower per gravity than in November, 1913.

It is interesting to note the variation in price between the different grades of oil throughout this period. For instance, in 1913, the difference between the lowest and highest gravities was only 20 cents. In 1920, the difference in price of these same grades was as much as $1.35. This increase in differences was gradual and followed more or less the trend of increase or decrease in crude prices, with the greatest difference when crude prices were highest.

A comparison of production figures for the period from 1913 to 1923, shows that this increase and decrease of crude prices has been in keeping with the law of supply and demand. When production was at its highest, prices were low, and vice versa.

CRUDE OIL PRICES IN CALIFORNIA

NOTE: Commencing January 31, 1920, prices below applied uniformly to all fields including San Joaquin Valley, Los Angeles and Orange Counties.

Gravity	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	
1913																							
Nov.					.60	.60	.60	.60	.65	.65	.65	.75	.75	.75	.85	.85	.85	.85	.85	.85	.85	.85	for 28° and up
1914																							
Jan					.55	.55	.55	.55	.60	.60	.60	.70	.70	.70	.80	.80	.80	.80	.80	.80	.80	.80	For 28° and up
May 20					.50	.50	.50	.50	.55	.55	.55	.65	.65	.65	.75	.75	.75	.75	.75	.75	.75	.75	For 28° and up
July 1					.45	.45	.45	.45	.50	.50	.50	.60	.60	.60	.70	.70	.70	.70	.70	.70	.70	.70	For 28° and up
July 30					.42½	.42½	.42½	.45	.45	.45	.45	.55	.55	.55	.65	.65	.65	.70	.70	.70	.70	.70	For 31° and up
Oct. 3					.40	.40	.40	.42½	.42½	.42½	.42½	.42½	.42½	.52½	.52½	.52½	.52½	.60	.60	.60	.60	.60	For 31° and up
1915																							
Nov. 20					.45	.45	.45	.47½	.47½	.47½	.47½	.47½	.47½	.57½	.57½	.57½	.57½	.62½	.62½	.62½	.62½	.62½	For 31° & up
Dec. 28			.48	.48	.49	.50	.51	.52	.53	.54	.55	.56	.57	.58	.59	.60	.61	.62	.63	.64	.65	.66	Add 1c each 1°
1916																							
Feb. 16			.53	.53	.54	.55	.56	.57	.58	.59	.60	.61	.62	.63	.64	.65	.66	.67	.68	.69	.70	.71	Add 1c each 1°
Apr. 1			.58	.58	.59	.60	.61	.62	.63	.64	.65	.67	.69	.71	.73	.75	.77	.79	.81	.83	.85	.87	Add 2c each 1°
July 7			.63	.63	.64	.65	.66	.67	.68	.69	.70	.72	.74	.76	.78	.80	.82	.84	.86	.88	.90	.92	Add 2c each 1°
Sept. 20			.68	.68	.69	.70	.71	.72	.73	.74	.75	.77	.79	.81	.83	.85	.87	.89	.91	.93	.95	.97	.99	
Nov. 21			.73	.73	.74	.75	.76	.77	.78	.79	.80	.82	.84	.86	.88	.90	.92	.94	.96	.98	1.00	1.02	1.04	
1917																							
May 11			.78	.78	.79	.80	.81	.82	.83	.84	.85	.87	.89	.91	.93	.95	.97	.99	1.01	1.03	1.05	1.07	1.09	Add 3c per barrel for each 1° increase
June 7			.88	.88	.89	.90	.91	.92	.93	.94	.95	.97	.99	1.01	1.03	1.05	1.07	1.09	1.11	1.13	1.15	1.17	1.19	
June 28			.98	.98	.99	1.00	1.01	1.02	1.03	1.04	1.05	1.07	1.09	1.11	1.13	1.15	1.17	1.19	1.21	1.23	1.25	1.27	1.29	
1918																							
May 1			1.23	1.23	1.24	1.25	1.26	1.27	1.28	1.29	1.30	1.32	1.34	1.36	1.38	1.40	1.42	1.44	1.46	1.48	1.50	1.52	1.54	
1919																							
June 10			1.23	1.23	1.24	1.25	1.27	1.29	1.31	1.33	1.35	1.37	1.39	1.41	1.43	1.45	1.47	1.49	1.51	1.53	1.55	1.57	1.59	
1920																							
Jan. 31	1.23	1.23	1.23	1.23	1.24	1.26	1.29	1.33	1.38	1.44	1.51	1.59	1.68	1.78	1.88	1.98	2.08	2.18	2.28	2.38	2.48	2.58	For 35° and up
Mar 17	1.48	1.48	1.48	1.48	1.49	1.51	1.54	1.58	1.63	1.69	1.76	1.84	1.93	2.03	2.13	2.23	2.33	2.43	2.53	2.63	2.73	2.83	" "
Jul. 10	1.60	1.60	1.60	1.60	1.61	1.63	1.66	1.70	1.75	1.81	1.88	1.96	2.05	2.15	2.25	2.35	2.45	2.55	2.65	2.75	2.85	2.95	" "
1921																							
May13	1.35	1.35	1.35	1.35	1.36	1.38	1.41	1.45	1.50	1.56	1.63	1.71	1.80	1.90	2.00	2.10	2.20	2.30	2.40	2.50	2.60	2.70	" "
Aug. 3	1.10	1.10	1.10	1.11	1.13	1.16	1.20	1.25	1.31	1.38	1.46		1.55	1.65	1.75	1.85	1.95	2.05	2.15	2.25	2.35	2.45	" "
1922																							
Jul. 15	.85	.85	.85	.85	.85	.85	.88	.92	.98	1.05	1.13	1.21	1.30	1.40	1.50	1.60	1.70	1.80	1.90	2.00	2.10	2.20	" "
Jul. 25	.60	.60	.60	.60	.60	.60	.63	.67	.73	.80	.88	.96	1.05	1.15	1.25	1.35	1.45	1.55	1.65	1.75	1.85	1.95	" "
1923																							
Jan. 6	.60	.60	.60	.60	.60	.60	.62	.65	.70	.75	.80	.85	.90	.95	1.00	1.05	1.11	1.17	1.24	1.31	1.38	1.45	" "
*Apr. 10	.60	.60	.60	.60	.60	.60	.61	.62	.65	.68	.71	.74	.77	.80	.83	.86	.89	.92	.95	.98	1.01	1.04	" "
Oct. 9	.60	.60	.60	.60	.60	.60	.61	.62	.63	.64	.65	.66	.67	.68	.69	.70	.71	.72	.73	.74	.75	.76	" "

*Does not apply to San Joaquin Valley (unchanged) Effective in all fields of state on August 1.

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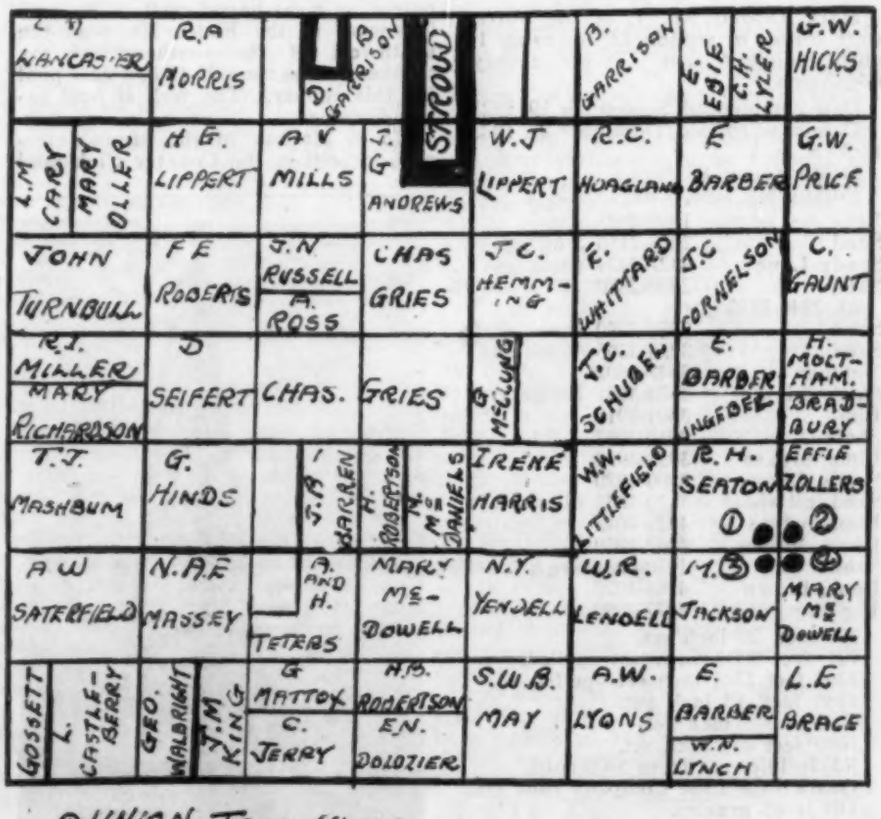
Township Map of New Stroud Field



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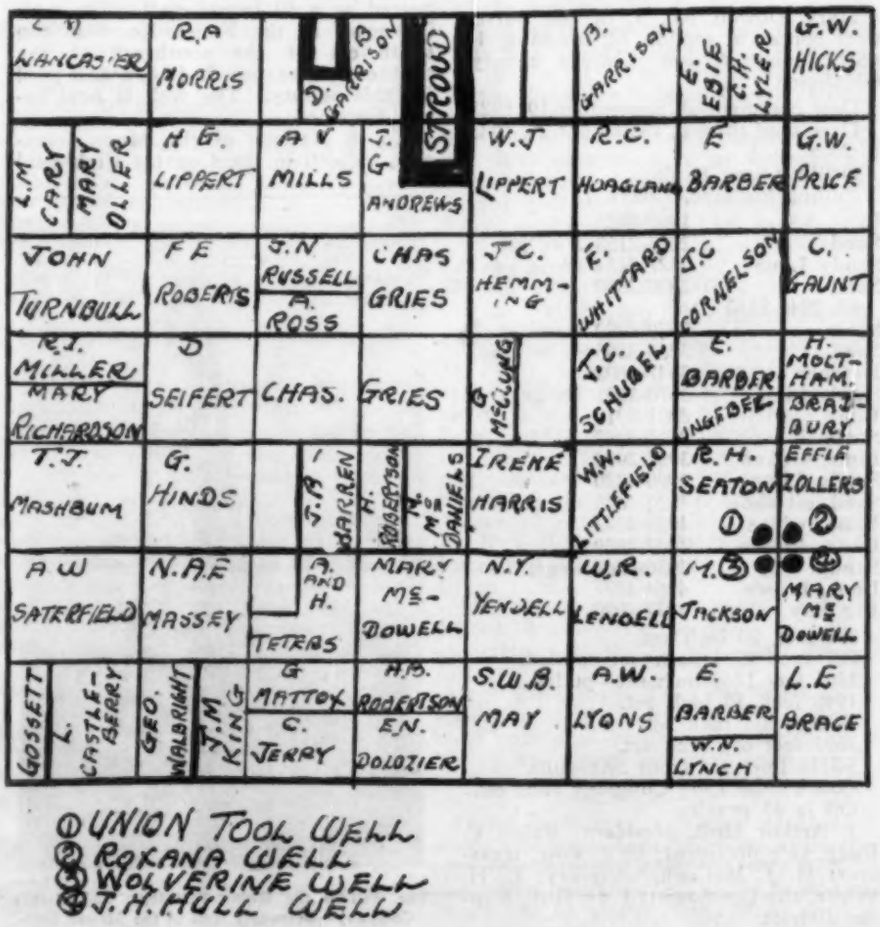

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Company, a well is drilling in red mud at 455 feet in the southwest corner of the southwest of section 6-14-7.

Oil from the Zollers well and the Hull well is being run by the Ozark Pipe Line Company, pipe line subsidiary of the Roxana. The Ozark Company has built a four inch line from its line in section 13-6-6 to connect with the Stroud field. The Stroud line connects to a line in 13-6-6 coming from the Mary Wilson lease in section 15-8 in Creek county which goes direct to the Ozark Transit station on the main trunk line. The Magnolia Petroleum Company is taking the oil from the Union Petroleum well.

Supply houses are rushing their stores to completion at Stroud, some building their own houses while others are leasing or renting buildings. The Hinderliter Tool Company is located in an old bank building on the main street of the town. The Oil Well Supply Company is making headquarters on an open lot. A supply of fishing tools and other accessories is the extent of the Oil Well Supply equipment at present. The Bridgeport Machine Company is another of those to already open up a branch at Stroud.

The city is a typical boom town—new building—new industry, with tents to accommodate the workers and seekers and temporary restaurants to feed them. Old time inhabitants of Stroud do not seem to be excited over the advent of the new field—it appears that they rather expected it for it had been the topic of conversation since the town had been given a charter as a municipality of Oklahoma.

History of Hull Well

Mary Dowell No. 1, in the northwest corner of section 12, township 14 north, range 6 east, Lincoln county, Oklahoma.

Date commenced, September 19, 1923.
Date sand topped, December 25, 1923. 12:30 a. m.
Drilling time, 85 days.
Pulling big pipe, 5 days.

Lime	1990-2025	
Sand	2025-2150	3 m. gas
Sandy Lime	2427-2434	some gas
Sand	2800-2870	
gas	2840-2850	
Sand	2970-2980	some gas
Sand	3255-3305	½ m. gas
Dutcher	3547-3602	
Sandy Lime	3670-3691	Burgess
Lime	3691-3910	
Shale	3910-3957	
Lime, broken	3957-3990	
Sandy Lime	3990-4020	
Sand, oil show	4020-4025	oil show
Lime, white	4025-4042	
Lime, brown	4042-4050	
Sand	4050-4064	show oil
Lime, brown	4064-4077	
Big Pay	4077-4090	

321 feet, 20 inch set.
721 feet 15½ inch set—pulled.
1365 feet 12½ inch set—pulled.
1940 feet, 10 inch set.
— feet 8¼ inch set.
3693 feet 6⅝ inch set.
5 3/16 liner set from 3908-4016.
Ozark Pipe Line Company runs oil.
Oil is 45 gravity.

J. Arthur Hull, president; Ralph C. Riley, vice president; P. F. Cole, treasurer; O. J. McCann, secretary; L. H. White, chief geologist; J. D. Hull, Kansas district.

Three Wells in Hewitt Field, Let Loose by Ending of Shut Down, Have Quit Flowing

Tulsa, Okla., Feb. 13.—With the abrogation of the shut down at Hewitt three weeks ago came the reports of large producers, of increase in drilling activity and of a general trend of progress. Three good wells were brought in by the Carter-Southwestern companies, real producers of good oil. But today these same wells have stopped flowing—an uncanny occurrence that oil men have been unsuccessful in trying to solve.

One of these wells is now on the pump, another is being swabbed while another is being drilled deeper in order to bring back the production. These wells are of a group located in the eastern part of the field. It is hoped that a lower pay will be found to the southeast of the discovery well which will bring back the Hewitt pool to appreciable comment. The group of wells included in those which stopped flowing are the Carter-Southwestern No. 20 Ward, northwest of the northeast of section 21-4s-2 west, on the pump; Carter-Southwestern No. 40 Noble, northwest of the northeast of section 21-4s-2 west, drilling deeper; and Carter-Southwestern No. 42 Noble, northeast of the northeast of section 21-4s-2 west, swabbing 220 barrels per day.

The Cincinnati Oil and Gas Company and Atlantic Oil Producing Company's well in Creek County, which came in unexpectedly from the Dutcher sand at 3264 feet has made several good flows during the week and is now reported as a 50 barrel well. The well is known as the Fixico No. 1 in the southwest of the southeast of the southeast of section 29-16-8, a new pool for this county. The well is now being deepened.

No. 6 Mackay of the Munn interests, located in the Country Club pool in Osage County, has been completed with an initial flow of 50 barrels per hour from a sand topped at 2065 feet, a second break in the lime formation. The Country Club pool is located about six miles from the Tulsa postoffice and the above mentioned well of this district is located in the northwest corner of the northeast of section 28-20-12. The Peer Oil Company's Eva Mackey No. 1, in the southeast corner of the southwest of section 21-20-12, is a producer from the upper Wilcox sand at 2055-68 feet. Plugging back from a depth of 2075 feet, the well is now making about 75 barrels of oil daily.

The well of the Union Petroleum and Supply Company—Discovery well of the Stroud field

Charles Page et al have completed their well in the Bruner district for about 40 barrels per hour. It is located in the southeast corner of the northeast of the southwest of section 6-19-12, a direct offset to the Shaffer Oil and Refining Company well brought in some two months ago for an initial flow of 500 barrels. A little more than a mile east of the Bruner pool, the Echo Oil Company's No. 1 Lynch, in the southeast corner of the northeast of section 5-19-12 is good for about five million feet of gas from a sand topped at 1915 feet and pierced six feet.

Plugging back a well which was shut down for more than a year, W. R. Ramsey has been successful in completing his No. 1 Davis in the Wewoka townsite for a flow of a million cubic feet of gas and some oil. Owing to the presence of water in the well, no estimate can be placed on the oil production until it has been bailed and cleaned. The well is located on block 96 in section 19-8-8.

The H. F. Wilcox Oil and Gas Company is drilling their No. 1 Bruner in the northwest of the southeast of the southwest of section 15-10-8 deeper. The well encountered a gas showing of approximately 15,000,000 feet during the first part of the week, but it has been shut off. The gas was coming from a sand at 3125-30 feet. The well is located in the Cromwell pool of Northwestern Seminole County.

The Sinclair Oil and Gas Company's No. 3 Smith in the northeast of the northwest of 13-11-11, Eastern Okfuskee County, has been completed as a gasser of 12,000,000 cubic foot capacity. After finding the sand at 2770 feet, the well was drilled 14 feet in and the present output was found.

The Papoose Oil Company's No. 1 Simon in the northeast corner of the northwest of section 9-9-9 in the Wetumka field of Northern Hughes County, is still holding up and there now seems no doubt as to it being a good well. The sand was topped in this well the latter part of last week at a depth of 3318 feet and it started flowing immediately. The well made about 45 barrels per hour for the first three hours and its present production is sufficient to warrant satisfaction at the present depth. Sand in the well was found about five feet higher up than in the Papoose discovery well, which is now being cleaned out after bridging over.

Bristow's second good producer for

Texhoma Producer Extends 1900 Foot Area In Wichita County; Desdemona Gas Extended

Wichita Falls, Texas, Feb. 12.—The 1900-foot oil producing horizon was uncovered in an entirely new section of Wichita County last week when the Texhoma Oil & Refining Company's S. B. Burnett 4 began flowing by heads at the rate of 250 barrels daily. This well is in the east half of section 5, about two miles south of Fowlkes Station and four miles southeast of the section of the Electra field producing from the 1900-foot sand. Casing was set on top of the sand at 1951 feet and the pay drilled to 1954 feet. The well began flowing by heads while cleaning out. Three shallower producing horizons have already been established on this lease. Along the north line of the same section and about half mile due north of the above new producer, Stacey & Bregen's Burnett 1 is repoted to have logged an oil sand at 1985 to 1987 feet, but lost casing seat while bailing within 200 feet of bottom. The Gulf Production Company has made location for a deep test to be drilled to the west of Texhoma's Burnett lease, while several additional locations are being planned to determine the extent of the 1900-foot pay in other directions.

Completions made in Archer County during the past seven day period were largely centered in and around the Wilmot-Wilson pool, with a total of 28 reported for the county. Of this number, 11 were dry holes, with depths ranging from 1620 to 1860 feet, and many serve to define the limits of the producing area in the Wilmot-Wilson pool. Among the large producers completed early this week was Lanning-Moninger et al's W. F. Parrish 1, which swabbed at a rate of 400 barrels daily from sand at 1594-96 feet, while in the same territory a 300 barrel well has been completed in the Panhandle Refining Company's W. F. Parrish 2 from sand at 1596-98 feet.

The shallow gas field in the upper part of Montague County registered another producer last week when The Texas Company's C. W. Rucktashel 1 tested 13,300,000 cubic feet of dry gas from broken sands at 738-744 feet and

the week, counting the Cincinnati-Atlantic well as one, came in in the Lorraine Petroleum Company's No. 11 Deere, in the center of the west line of the southwest of the northeast of section 23-16-8, which found the sand at 3126 feet and flowed by heads at the rate of 1000 barrels per day. The oil, coming from a Dutcher sand, is of 31 gravity. The Peters Oil Company is building a rig for a diagonal offset to the Laurel Oil Company's 700 barrel well which came in last week. The new location is in the southeast of the southwest of the northwest of section 22-16-6, near Bristow.

Just west of the town of Delaware, W. A. Jacobs and associates have completed a well which is good for about 60 barrels per day from a sand at the shallow depth of 836 feet. The well, located in Nowata County, is known as the Armstrong No. 1 in the northeast of the southwest of section 1-26-15.

The Phillips Petroleum Company's No. 14 in the Burbank pool is a 1200 barrel producer from the 3039 foot mark. This well is located in the northwest extension of the field in section 23-27-5. In this same townsite and range, George Bole has two wells drilling which might define the extension of the Burbank field. One in the northwest of 4-27-5 is drilling below 2950 feet without a show so far, and the other is drilling at 2960 feet with no show. The Burbank will be defined in the event these wells are dry holes.

CORSICANA PRODUCTION

Corsicana, Texas, Feb. 13.—The daily average production for the field for the past week was divided as follows:

	Barrels
Humble Oil & Refining Company	30,500
Gulf Production Company	17,215
Humphreys Oil Company	12,000
Simms Oil Company	7,400
Tidal Oil Company	5,920
E. L. Smith Oil Company	3,308
Atlantic Production Company	3.050
McMann Oil Company	3,000
Garland Kent et al	2,870
Roxana Petroleum Corporation	2,550
Witherspoon Oil Company	2,225
Texas Company	2,200
Mutual Oil Company	1,900
J. K. Hughes Development Company	1,640
Texas-Magnolia	1,560
Skelly Oil Company	1,225
Kirby Petroleum Company	1,150
R. E. Brooks, Jr.	1,050
T. & B. V. R. R. Co.	770
Sun Company	725
W. T. Parker	700
Elliott et al	550
Galloway, Bass et al	470
U. S. Tex Oil Corporation	400
T. F. Hunter	250
Barclay & Meadows	240
Mitchell & Jones	240
Cosden Oil & Gas Company	210
New Domain Oil Company	200
Sturbe & Sturbe	200
Miscellaneous	300
Total	106,035
Last week	104,005

782 to 793 feet. This well is in the Samuel Little survey, abstract 417.

Two new producers were added to the southwest edge of the Curry pool in southern part of Stephens County during the week. Roeser & Pendleton's G. P. Jones 5, located in the southwest corner of the northeast quarter of section 84, flowed at the rate of 250 barrels of 39 gravity oil after shot of 80 quarts in gray lime pay from 3155 to 3190 feet, while a direct offset to the west was brought in about the same time by Haile & Knight interests flowing 150 barrels after shot from 3140 to 3184 feet. The latter concern has announced that a second test will be started shortly on its lease. The Swensondale Oil Company's wildcat test on the R. A. Elliott lease, located in the northeast corner of section 27, Orphan Asylum lands, and about four miles southeast of the Ibex field, is reported with a good showing of gas from top of the gray lime pay at 3482 feet, and is running a string of 5 3-16 inch casing to the pay before drilling in.

The prolific gas field, located northeast of Desdemona in Eastland County, was given a slight extension to the east last week when the Lone Star Gas Company's F. D. Hogg 2-A blew in making 8,000,000 cubic feet gas, with 410 pounds rock pressure, from sand at 3127 to 3139 feet. This well is in the W. H. Sargeant survey, and is to be connected with Lone Star Gas Company's gathering lines serving Central Texas.

Two dry holes have been completed in the vicinity of the shallow pool uncovered last December by C. Rosenfield and others on the J. P. Gilbert lease, near Carbon. George Ablon et al's R. Allison 1 logged a dry sand at 462-70 feet, and gave up the test at 555 feet, while a sand at 472-87 feet also proved dry in the shallow test drilled by Grisham et al on the A. J. Halloway lease.

Laredo Section Gets Largest Well of Week

Laredo, Texas, Feb. 13.—The biggest well ever completed in this district was brought in at noon Sunday from a sand at 1709 feet on block 68 in the Edgington survey on the Puig ranch (formerly Aviators pool) making 3000 to 3500 barrels. It is continuing to flow and seems to be holding up at the initial production. The well is the Tex-Laurel Oil Company's No. 4 and is in a locality where several big gas wells have been completed, each spraying oil as well as normally productive pumping wells. This well had a strong head of gas and blew oil all over the scenery. It has set the scouts and operators wild and they are coming for miles around to look at it. The well is due north of the discovery field in Zapata county but is across the line in Webb county and along the big escarpment. It is the first gusher oil to be brought in here but there have been several wells in the last three years making oil in heads at from 1000 to 1500 barrels.

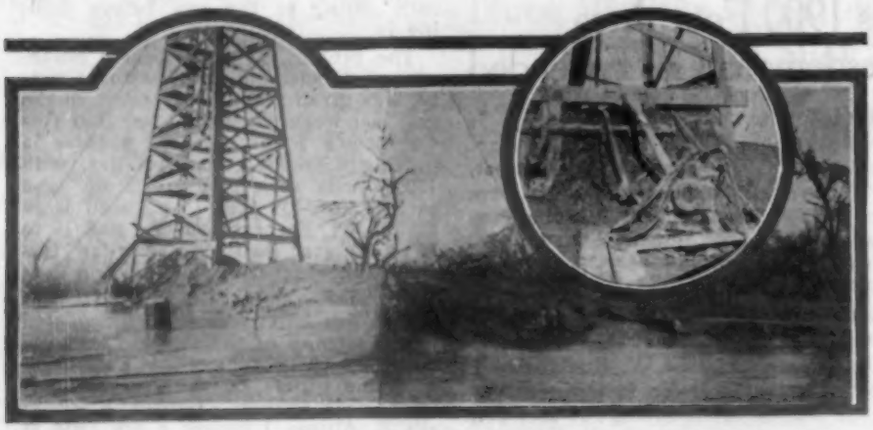
Scott Transferred to Rocky Mountain Field

Washington, D. C., Feb. 13.—Walter W. Scott, deputy supervisor of the Interior Department of oil and gas operations in the Gulf coast district, has been transferred to the Rocky Mountain district, to assume the position made vacant by the resignation of Charles E. Beecher. Mr. Scott will be succeeded in the Gulf Coast district by H. B. Hill, formerly in charge of the Bureau of Mines office in the Salt Creek field.

Mr. Beecher's resignation was submitted in order that he might become associated with the Empire Gas & Fuel Company.

J. S. Ross, formerly in the Washington office of the Bureau of Mines, has been appointed engineer in charge of the oil and gas supervisory work centering at Shreveport, Louisiana.

Jessel S. Whyte, secretary of Macwhyte Company, manufacturers of wire rope for oil country use, is away from company headquarters in Kenosha, Wisconsin, on a tour of the Mid-Continent oil country.



These pictures show No. 2 Fisher in the Calliham field, McMullen County, drilled by Scharbauer & Hoard which blew in Tuesday, February 5, making gas estimated at from 50,000,000 to 100,000,000 cubic feet. The well cratered and buried the rig under tons of sand. The picture shows the immense pile of sand belched forth by the crater and the smaller picture shows the rotary entirely buried under sand. The well smothered itself with sand and water. Mud was pumped into it for several days through the drill stem which is still in the hole. Its gas flow has decreased to about 5,000,000 cubic feet. The heavy gas stratum was found at approximately 650 feet according to reports here which is about 200 feet above the usual gas producing sands in that field, such as supply fuel for San Antonio. The State Railroad Commission is inspecting the well

Small Texas Field Now Making 500 Barrels

Marlin, Texas, Feb. 5.—The shallow oil pool near the town of Chilton in Falls County has increased its daily production to approximately 500 barrels, and all oil produced is being purchased by the Humble Pipe Line Company and the National Petroleum Company. The Humble recently laid a three-inch line from its main pump station at Chilton to the Randolph lease, a distance of about three miles, while the National Petroleum Company has a two-inch line extending from the field to a tank car loading rack, near the town of Chilton. The oil produced in this pool has a gravity ranging from 32 to 34.5 degrees, and is obtained at depths varying from 1045 to 1170 feet, with the pay running irregularly.

The discovery well of the pool was completed in May, 1922 by Gray Bros. & Hennesey on the Lewellen farm with an estimated initial production of 25 barrels of oil and some water at 1045-48 feet. This well has not been pumped regularly in the meantime, but is estimated good for about 10 barrels of oil daily with a quantity of water, which is easily separated from the oil when treated. The oil pumped from the well in the past year has been sold for fuel in drilling nearby tests and to cotton gins. An offset drilled on both the east and west sides of the discovery well proved dry, and interest in the area did not develop until a 140 barrel flowing well was brought in by the Post Oak Oil Company on the Taylor farm late last summer from pay at 1100 to 1121 feet. This well is located about one and three-quarter miles northeast of the discovery well, and averaged better than 200 barrels daily during the first week on the pump. It is still pumping about 150 barrels of oil daily. A second test drilled by this company on Randolph lease about 600 feet northwest of No. 1 Taylor proved dry, while a dry hole was also obtained by the E. L. Smith Oil Company's test, located several hundred feet southeast of the Taylor producer.

The Post Oak Oil Company's second test on the Taylor also proved dry after drilling to 1170 feet, but a test drilled between Nos. 1 and 2 was completed January 30 making 200 barrels of 34.5 gravity oil at 1170 feet, which is the deepest well in the pool, and furnishing the highest grade of oil. A nearby test drilled by Seay-Cranfill-Falvey & Reynolds on the Chance farm to 1130 feet and shut down to abandon, has resumed drilling again to try for the 1170-foot pay.

Seay-Cranfill-Falvey & Reynolds' producing well on the Randolph farm, which came in November, 1923, flowing 125 barrels daily at 1059-74 feet, and later gauged 200 barrels on the pump, has since settled to 80 barrels daily. This well is about one-quarter of a mile to the northeast of the original Taylor producer, and a location has been made for a second test on the Randolph lease. About one mile northeast of the Randolph lease, J. K. Hughes Development Company's Westbrook 1 is preparing to set casing at 1050 feet to test out a good showing of oil passed up when the hole was carried down to 1224 feet. A second test on the Westbrook lease is to be drilled deeper after bailing dry at 1100 feet.

F. M. Selby, president of the Selby Oil and Gas Company, who has been wintering in Florida and who has just returned from a visit to the West Coast, left Tulsa last week on his return to Florida.

Deeper Drilling Becoming More Necessary In Gulf Coast as Production Shows Decline

Houston, Texas, Feb. 13.—Deeper and deeper drilling is becoming more necessary in the Gulf Coast country to hold the production at a point above the danger mark. In fact, drilling, both deep and shallow, has failed to hold production, and but for two big wells which came in at Hull last week, the production of crude in the Gulf Coast territory would have been 18,000 barrels a day less than it was a year ago. As it was the average for the week is about 14,000 barrels a day less than it was the corresponding week in 1923. As compared to January, 1923, Gulf Coast production is off about 32,000 barrels a day.

In the Orange field, where the Sun Company's No. 2 Brown, completed a few months ago at 4584 feet making 4000 barrels a day, a number of wells are testing around this depth, and several wells are drilling below 4000 feet in various parts of the field.

The Gulf Production Company's No. 60 Kishi-Lang, a slight extension to the Orange field, was completed early in the week at 4250, good for 1750 barrels of oil. It is located about 700 feet north of production, the nearest producing well to it being the Rycade Oil Company's No. 2 Kishi.

The Sun Company's No. 2 Brown stopped flowing during the week and is going on the beam, after having been a good flowing well for a considerable period.

In the same field, the Humble Oil and Refining Company's No. 8 Winfrey is testing at 4910 feet and the same company's No. 18 Chesson is testing at 4240 feet. The Sun Company's No. 3 Brown is testing at 4700 feet, and the Humble's Chesson B-20 is drilling around 3915 feet.

The Gulf Production Company's No. 13 Lee Hager Fee in the Orange field tested a few days ago at 4832 feet and bailed salt water. It will be drilled deeper. In the same field the Gulf's No. 5 Peeto is drilling below 4025 feet; the Mutual Oil Company's No. 8 Chesson is standing at 4270 feet; Sinclair's No. 5 Granger is going on the beam at 3965 feet and No. 6 on the same lease is drilling below 4634 feet. The Supreme Oil Company's No. 1 Jackson is drilling below 4634 feet and the Sun Company's No. 1 Kato is drilling around 4297 feet.

At Goose Creek the Gulf Production Company tested its No. 27 Beaumont Petroleum Company, out in the bay, and got a water well at 4520 feet. It will be drilled deeper. In the same field the Humble Oil and Refining Company's No. 10 Tabb is drilling below 4630 feet and No. 26 Penninsula is drilling below 4525 feet. On Spillman's Island, near the Goose Creek field J. R. Copeland's No. 1, a workover, is temporarily abandoned at 4682 feet but it is probable that it will be drilled deeper.

At Blue Ridge the Mutual Oil Company's No. 1 Blakely is drilling below 3800 feet and the Kirby Petroleum's No. 1 Soderberg (formerly known as R. C. Duff's well) is drilling around 4467 feet.

Pierce Junction has three deep ones. The Gulf Production's No. 4 Cain tested salt water at 4152 feet. Snowden & McSweeney's No. 7 Cain also tested water at 3952 feet and the Sun Company's No. 1 Ritter is drilling below 4100 feet.

At Hull the Humble Oil and Refining Company's No. 1 Sterling Fee is drilling below 3995 feet. At Humble, Burt and Griffith's No. 1 Kohler is drilling at 4680 feet.

Volcanic Matter in Monroe Gas Field

Core from 2340 feet gives discovery which might serve as key bed for large area

By H. D. Easton

VOLCANIC matter, classed as bentonite, has been cored from a depth of 2340 feet in the Monroe Gas field of Louisiana. This discovery might very readily prove of considerable practical value in that it could serve as a key bed over a wide area, and a definite key bed is greatly to be desired.

Volcanic ash would, very naturally, spread out over, and cover hundreds of square miles so as to form a definite bed that could be identified and recognized through microscopic examinations of cores. Re-worked, water-carried, volcanic matter would, of necessity, carry large percentages of impurities and, therefore, be of limited extent and of little or no value as a key bed or horizon marker. The sample under consideration "is composed almost entirely of volcanic matter," hence the hopes that it may prove to be a key bed of much practical value.

There has been a great deal of speculation as to what formation is carrying the gas in the Monroe field; opinions being about equally divided between the Nacatoch and the Annona Chalk. Nothing definite is known, due to the fact that these gas wells come in very strong and prevent, or preclude the necessity of, any coring. It is highly desirable that we have some positive evidence along this line so that intelligent prospecting of the other, and deeper, formations can be made. Local geologists, aided by the splendid cooperation of the U. S. Geological Survey, are trying to solve this troublesome problem.

It might be remarked right here, that the area included within the Mississippi Embankment, including Southern Arkansas, Northern Louisiana, Eastern Texas, and Northern Mississippi, presents unusually difficult subsurface problems that can be solved only through the closest cooperation between the driller and the geologist. The core barrel must be used extensively, always under close observation of the geologist.

Cores and cuttings recently came to my office through Mr. E. J. Deas, president of the Neighbors Oil & Gas Company. These are from their Marlott No. 2, section 19-T2ON-R6E, Morehouse Parish, Louisiana, being located on the extreme eastern edge of the present developed gas production of the Monroe field. Their well No. 1, also in section 19, gauged about 2,500,000 cubic feet, showing some salt water; well No. 2 lies about one-fourth mile due east of No. 1 and did not show enough gas to make a commercial well. It has the 8-inch casing set at 2291 feet and is in excellent condition to be deepened. The log of well No. 2, like other logs of the Monroe area, does not enable our naming the gas horizon, but it gave cores of quite unusual interest, also shells, which were submitted to the U. S. Geological Survey for examination.

The shell gave no positive information concerning the gas horizon. Dr. Philip S. Smith, Acting Director, wrote that Mr. T. W. Stanton of the Survey, reports these fossils to be "Upper Cretaceous species found in the Arkadelphia, Nacatoch, and Marlbrook formations." This would not answer the question as to whether the gas is coming from the Nacatoch or the Chalk. However, he speaks of the core as follows: "The specimens are of particular interest because of their lithology. Casual inspection would probably result in their being classified as a clay or shale conglomerate, but closer inspection shows that they are probably in large part composed of volcanic matter. A further study will be made and anything significant will be reported to you. If the material is in fact largely volcanic, the horizon should be recognizable over a large area and should constitute a good horizon marker for purposes of correlation."

Subsequent letters from K. C. Heald, Geologist in Charge, Section, Geology of Oil and Gas Fields, give additional statements showing the nature and value of this discovery. Mr. C. S. Ross, a petrographer of the Survey made the microscopic examination of the core, which shows, "that it is composed almost entirely of volcanic matter, and may properly be classed as **bentonite.** The sample contains layers and crystals of calcite. The calcite plainly is secondary * * * such a splendid horizon marker should be known to all geologists working in northeastern Louisiana and southeastern Arkansas."

"In studying cores in the field it is well to remember that a real bentonite may be recognized quite easily by its property of absorbing large volumes of water and slacking or going to pieces, and at the same time swelling quite visibly. The core you sent me manifested this property to a marked degree. A drop of water let fall on the side of the core would result in a raised spot or blister in a very short time, and a small fragment dropped in a glass of water would go to pieces, with visible slacking and swelling. Of course there are some clays that also absorb a great deal of water, but, so far as my observation goes, there are no such clays in northern Louisiana."

Proper scientific description of this rock will be written up by the Survey for the Bulletin of the American Association of Petroleum Geologists. The object of the present article is directly in line with that written by me for The OIL WEEKLY for July 14, 1923, wherein it was strongly urged that a closer check should be kept on wildcat logs. If we are to become acquainted with the sub-surface conditions and thereby waste less money, and discover more oil and gas in this region, we must have operators willing to spend the relatively small additional amount demanded by coring and close geological supervision.

In the case of the Monroe Gas field, it becomes apparent that cores have great value in proven fields as well as in wildcat drilling. If the logs of even one half of the wildcat wells drilled to date in the Shreveport region could be properly correlated, that information would be worth millions. From now on let us not only know the business "from the ground up," but "from the ground, DOWN."

Cotton Valley Well Increases When Allowed to Flow; Shallow Test at Homer Disappointing

Shreveport, La., Feb. 11.—The showing of the Louisiana Oil Refining Corporation's Merritt well at Cotton Valley is somewhat improved as a result of the well having been permitted to blow open throughout the week. When first opened wide, no great increase in oil production was noticeable in comparison with its former average of around 110 barrels per day while blowing through a one inch and a half inch choke. Today, however, a gauge of 215 barrels of oil is reported by Marbletop Robinson, in charge of the well, as representing its yield during the perceeding 24 hours. He states that the well's oil production is slowly but surely increasing. A centrifugal test of the oil made yesterday revealed no sediment, save one-half a per cent sand and no water. That the well is now making some sand is considered as significant in connection with its increase in production, indicating, perhaps, that it is drilling itself deeper in proportion to the rate of increase in production.

It is said that, high water permitting, a test will be made this week in the Oil Fields Gas Company's Hope A-1, located in the northwest corner of the east half of the southwest quarter of section 13-21-10, in which casing was set and tested several weeks ago at 2396 feet.

The Humble Oil and Refining Company is fishing for the liner in the Webb discovery well, in section 13-21-10, in which it is reported to be that company's intention to set a second and smaller string of casing to permit of drilling deeper into the Blossom sand.

Six inch casing has been set at 2505 feet in the Fortuna's Stratton test in section 31-22-10; and that company is drilling below 1150 feet in its Pruitt test in section 17-21-9.

The Triangle Drilling Company, on behalf of the Cotton Valley (Snyder) Syndicate, is drilling at 1750 feet in its direct offset to the Louisiana's producer in section 14-21-10; and at 1135 feet in its Hodges offset in section 15 to the Fortuna's Merritt completion in section 14, which sprayed oil when brought in but has never been opened since.

The White Oil Corporation has suf-

Arkansas Production Up Result of Crude Advance

El Dorado, Ark., Feb. 11.—Smackover production averages showed another increase last week, due to the stimulus of higher crude prices. Twenty-six new wells were completed, with an average initial production of 129 barrels each. However, four or five dry tests were reported from the Louann district, which serve to indicate that the northern and western limits of that field are being approached.

The Perry wildcat, drilled by Miller, Burnham & Hawley, near Waldo, in section 12-15-22, of Nevada county, was tested last week at 558 feet; but only fresh water was obtained. A showing of oil was reported from this well before casing was set. The Ken-Ark Oil Company is drilling on a hard rock at 1025 feet in its White test, in section 11-13-21, of this county. Dee et al are rigging up to begin drilling in their No. 1 Johnson, in section 27-14-21.

Foster et al have set eight-inch casing for a test at around 1080 feet in their Harvey wildcat, in section 32-11-19, of Ouachita county.

Ray et al are pulling liner to drill deeper in their Long wildcat in section 28-16-14, Union county, which was bailed dry last week at 2120 feet.

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fered a twist off at around 1200 feet in its Gleason well in section 31-22-10, and a fishing job is now in progress there.

Oakland Reviving

Interest in the Oakland area, which ebbed considerably following the failure of the Palmer & Davidson wells to pay off in gusher style, is again reviving as a result of the widespread drilling activity there. Several widely scattered wells are being begun, and the story of Oakland should be known at their completion.

Davidson & Palmer are rigging up to clean out their No. 1 Frost-Johnson well, which, it is claimed, has produced about 400 barrels of oil altogether. It has not been pumped in a week. It is said to have produced about 250 barrels of oil in three days of operation, averaging about 83 barrels per day. Davidson & Palmer are now rigging up to drill another test on the Frost-Johnson property, to be located at a point 200 feet south and east of the northwest corner of the northeast quarter of the southwest quarter of section 17-23-1e, about a quarter of a mile south of the Clark wells.

Rumors are afloat regarding the Roxana's Smith test, in section 30-22-2w, in which coring has been in progress at around 2,050 feet. Some promising cores are said to have been obtained, but this cannot be verified. Evans et al are drilling at 1,500 feet in their No. 1 Cole, in section 16, of this same township.

The Neddo Petroleum Investment Corporation is awaiting the arrival of a string of six-inch casing, which will be set at 2,180 feet in its No. 1 Smith, in section 2-23-3w.

In section 19-23-1e, south of Palmer & Davidson's producer and near their Green dry hole, the Arkansas Natural Gas Company is drilling at 2,000 feet in its No. 1 Templeton; the Gulf Refining Company is drilling at 1050 feet in its Green well; and Feazel et al are rigging up on their No. 1 Green location. Lide et al are rigging up to begin operations in their No. 1 Templeton, in section 18-23-1e; and the Gulf is drilling below 700 feet in its Security Trust well. Cargile et al are shipping in a rig which will be used in drilling their Heard location, in section 25-21-3w. The Ohio Oil Company is drilling at 2,335 feet in its well on the Dubach Lumber Company tract, in section 15-20-1w. Tarver et al are drilling below 1150 feet in their No. 1 Rhodes, in section 30-21-1w.

The Ohio Oil Company is coring ahead at 2861 feet, after having bailed dry last week at 2859 feet in its wildcat on the Bodcau Lumber Company's property, in section 19-16-6, of Bienville Parish. A showing of gas was reported from this well before casing was set; but the well failed to make good on its promise when bailed.

Tarver et al have resumed drilling activity in the Dolet Hills section of De Sota Parish. They are drilling at around 700 feet in a well located on the Mathews land, in section 32-12-11.

The Standard Oil Company's Shaw No. 25, a shallow test recently drilled in section 30-21-7, of the Homer Field, has been abandoned as dry at 852 feet. This well was drilled for the purpose of making a test of the 700-foot sand, from which several showings of oil were obtained, but which failed to yield commercial production in this hole. A nearby well, operated by the White Oil Corporation, is producing about 20 barrels of light oil per day, which is thought to be coming from this shallow sand, the deeper pay having been plugged off and the casing shot at the shallow horizon.

The Ohio Oil Company has abandoned as dry its Crump well, in section 13-23-8, about a half mile east of the boundary of the Haynesville proven field. The rig has been moved to a location in the southwest corner of the northeast corner of the same section, where a well will be drilled at a point about a quarter of a mile beyond the proven limit of the field.

Shortage in California May Come in 1925

(Continued from page 45.)

good. It is found that there is a gas pressure of about 250 pounds and when the well quits flowing there is still considerable gas pressure to help out the pump. Some of the wells are carefully beamed down to conserve the gas pressure and it is thought that when the wells go on the pump they will produce in most instances better than 100 barrels a day for several weeks and then settle to about 100 barrels a day for months to come.

The water troubles are being solved at Torrance and at this time 133 wells are on production with 164 actively drilling. Early in the history of the field some of the operators drilled too deep, trying to take in a lot of sand. They brought trouble down on their heads and after plugging off the bottom, they have fair producers that promise long life.

Two Deep Tests

Decision has been reached to drill two deep tests in the heart of the new district that is furnishing most of the production at this time. The C. C. M. Oil Company (Santa Fe interests) and Superior Oil Company each selected a well to try for the deeper sands. Both of these wells are in the congested district. Now there is some guess work about who will try for the deeper sand to the east and south in the Lomita section where fair wells have been completed. It is fairly sure that some one will drill a deep test to the far east, likely the Standard or the Shell.

Pumps at Santa Fe

Indications are that the wells at Santa Fe Springs will be pumped, but there is difference of opinion of how much. A recent check of the field shows that all pumping wells are making an average of 75 barrels a day. A number of wells caused a lot of talk by quitting suddenly, one while flowing around 3000 barrels. When these particular wells were placed on the pump they averaged better than 150 barrels a day and are now settling to close to 150 barrels a day, but are expected to produce around 100 barrels a day after a few more weeks.

The pumping situation at Santa Fe Springs is fast being solved. Many serious obstacles had to be overcome, one of which was the extreme temperature at the bottom of the hole and another the low fluid level, meaning an actual lift of from 3500 to 4200 feet. This is some lift, but the pump manufacturers are coming to the scratch.

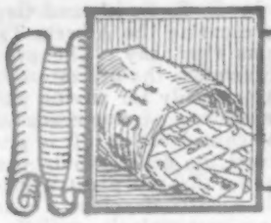
Pumping and Flowing

Two wells at Santa Fe Springs the past two weeks sprang a real surprise on their owner. The Shell's Nos. 9 and 10 Slusher quit flowing and were placed on the pump, making only ordinary wells for more than a week. About one week ago they started to show a large increase in output and on Wednesday of the past week flowed and pumped 4320 barrels for the day. It is thought that the action of the pump furnished just enough kick to the gas to put the fluid out at the top. The Shell has several wells pumping, but none of them have duplicated the action of the two named. The pumps are still going and No. 9 is making 1420 barrels and No. 10 is producing 2900 barrels.

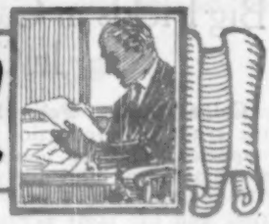
No. 9 has a total depth of 4600 feet and 4200 feet of two and one-half inch tubing was run in, showing the fluid level. No. 10 is 4630 feet deep and 4103 feet of two and one-half inch tubing was run. Axelson equipment is used on the two wells. No. 10 offsets Shell's No. 11 Slusher which is pumping only 75 barrels a day.

Production Off

The production the last week at Long Beach, Santa Fe Springs, Huntington Beach, Torrance and Compton was 443,500 barrels, a decline of about 10,000 barrels when compared with the figures for the previous week. The heaviest loss was at Santa Fe Springs where the production fell to 119,250 barrels compared with 125,125 the previous week. Long Beach was off about 3500 barrels a day, while Torrance was up 250 barrels a day.



LETTERS TO THE EDITOR



Exception has been taken to a recent article on the San Juan country in New Mexico and one subscriber writes in to give more details as to the oil prospecting work carried on in that part of the state.

His letter follows:

Aztec, New Mexico

To the Editor of The Oil Weekly,
Houston, Texas.

Dear Editor:

I am a subscriber for your Weekly and also think it one of the best weeklies on the market, but will say you sure have had a bum steer or been misinformed about this part of the San Juan country. In the first place you have 23 dry holes drilled. Now to correct this there is not that many holes in the entire San Juan basin let alone in a radius of 30 miles. The first hole drilled in this country was drilled in Farmington, about 18 years ago, dry. The next was west of Farmington about 15 miles, drilled by a man by the name of Maddox, and a great many people visited the lease and say that would make about six barrels per day. That was drilled 14 years ago. The next one was drilled by E. T. Williams and drilled 3840 feet; I know because I worked on the well myself, and at 1780 we got gas enough to measure about 2,000,000 feet but nothing more. Then the Mesa Verde, a local company, drilled two dry holes, No. 2 made about three barrels at 1120 feet and 40 feet of sand, but considered dry. The next two were drilled by a local syndicate. No. 1 at 890 feet, 5,000,000 feet per day. No. 2, 980 feet, 3,000,000 at 740. No. 1 made about five barrels of 61 gravity oil. No. 2 no oil to speak of. Next was the Midwest well No. 1 on the Ute(?) reservation at 2315 feet 60,000,000. Then the P. and R. on the same structure at a depth of 2420 feet got 80,000,000 feet of gas. Then a man by the name of Hubles started one well and did not finish because he had three other claims to validate them. The Midwest moved to the Hog Back and drilled six wells, five of them oil and one water. The water well was drilled off the structure for water. Then a company under the name of Shiprock Oil & Gas are drilling a well four miles east of Farmington and at present are underreaming at 1200 feet. The only other well in this country drilled at present was drilled by H. S. Stewart and was drilled to 1100 feet and is making about 5,000,000 feet of gas.

Now the reason I have written you this is because I have worked on nine of those wells myself and I know what they are. The three gas wells of Aztec the three validated claims of Hubbell, the E. T. Williams and the two Mesa Verde wells.

Now the total number of wells in the whole county is 13 drilled and two drilling at present and two rigging up.

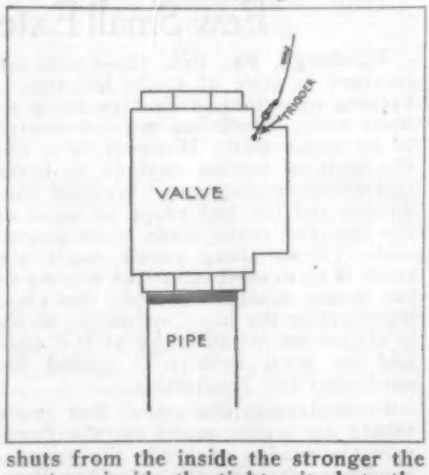
Hoping this will right a wrong and with the best of wishes for The OIL WEEKLY, I am, Respt.

In commenting on the fire series published in The OIL WEEKLY several months ago, one reader has written in to call attention to a new idea which he has for the putting out and preventing of oil well fires. His letter follows:

The OIL WEEKLY,
Gentlemen:

In The OIL WEEKLY, suggestions of how to put out fires in oil wells are invited. I have a valve model made and have tried it out on water and gas and it puts them out instantly. The method is as follows: When near oil or gas the valve is screwed to pipe and the drill goes on as usual as there is nothing inside the valve to hinder the drilling. By means of a trigger on the outside in case of fire, the trigger being in control of an attachment of a long wire or light chain, led to any distance away from the well, the men would run to the nearest place give the wire a pull, and the fire would be put out.

Of course the rope would have to be out of the hole, or the men would have to wait until the rope was burned through. The valve is shaped like a big Tee about 16 inches high and as it



shuts from the inside the stronger the pressure inside the tighter it shuts the well closes itself even if no fire occurs this would mean a saving in oil, as the oil could be shut off while the coupling up process was going on, one thing is absolutely sure the men's life would be saved. I wrote to Mr. Wallace of the Humble Oil Company sent him a drawing. So far the gentleman has not answered, so I am sending you a rough outline also am asking for your advice and assistance. Is it worth while going further in the matter. What would you advise? I thought to have one made but the testing is another matter, as no company might care about letting me try it out, but if your journal thought it worth while maybe your influence might get some company to let me try it out. There is no danger nor waste, the only cost would be of running a pipe away a safe distance from the well with a valve in control. Then attaching my valve the other valve would control the flow of the oil. Then setting fire to the oil flowing out of my valve, then if everything was not so, the oil could be turned off or on just like gas in a house. If I have not made myself clear write stating what you do not understand, and do not fail to mention objections, faults, etc. The superintendent of our gas company here says it's all right but says the drillers will not use anything but want to go right ahead, but this is no objection. Big companies can insist on safety first. The valve would pay for itself in the saving of the oil in first well also one man can handle same.

Third Producer May Mean Entire New Structure

Corsicana, Texas, Feb. 12.—Reports of a third test being on the Woodbine sand pay in wildcat territory, near Lake Richland in Navarro County and in line between the Richland pool and the Corsicana-Powell field, are attracting interest of East Central Texas operators, owing to the possibilities of an entirely separate producing structure existing in this area. The third test to encounter the pay is Miller & Lewis' (Longly et al) H. A. Swink 1, which is reported to have made five barrels of oil each time the swab was run at 3000 feet. This test was drilled two feet deeper early this week while carrying a heavy column of rotary mud, and is credited with having materially increased its showing of oil. Casing is to be cemented on top of the pay, while in the meantime flow tanks are being assembled to drill deeper. The Texas Pipe Line Company is making preparations to connect with the well.

The discovery well of this new producing area is reported to be flowing 380 barrels of 39 gravity oil, as was reported in detail last week. It was drilled by McDonald Brothers on the Dr. A. N. Brown lease, and had been showing oil for some time, but did not begin flowing until early this month when deepened to 2960 feet. A second test drilled by McDonald Brothers on the H. A. Swink lease, located about a quarter of a mile to the northeast of the Brown producer, is reported to be preparing to test on the pump at 2977 feet. The Texas Pipe Line Company connected up with both of these producers late last week, after extending a four inch line from the Richland pool, a distance of three miles.

Stocks of crude oil in steel storage in the Corsicana-Powell and Mexia districts amounted to 30,530,650 barrels, according to an inventory taken February 1. This represents an increase of 963,525 barrels as compared with the totals reported for the district on January 1.

The Corsicana-Powell field was credited with a daily average production of 99,570 barrels on February 1 from 627 wells, or an average of nearly 159 barrels per well, while on the same date the combined production of the Mexia-Currie-Richland district was 39,235 barrels from 585 producing wells, or an average of slightly more than 67 barrels per well.

Big Fields in Canada Show Large Loss In Output During Last Six Months 1923

Calgary, Alta., Feb. 11.—Figures of the crude oil production for the more important Ontario pools for the last six months of 1923 are now available. The comparative figures for this period, and the same period of 1922, are as follows:

Pool—	Barrels 1923	Barrels 1922
Petrolia-Enniskillen	32,603	33,332
Oil Springs	20,858	24,676
Bothwell	13,830	14,463

The Petrolia and Oil Springs pools are in Lamberton County and the Bothwell field in Kent county. All produce from the corniferous limestone formation, at depths varying from 350 to 550 feet. Figures are still to come from a number of smaller producing areas; but it is anticipated all will show the same general decline in production; while there is no new production of importance to offset the decline in the older fields.

Deep drilling operations in Ontario are, generally speaking, making slow progress. The capacity test of the Glennwood Natural Gas Company producer in the Trenton limestone, west of Port Alma in Kent county, still hangs fire; though all the material is on the ground. Latterly the well has been flowing by heads every Friday, yielding 50 barrels or a little better from each flow.

East of Port Alma the Union Natural Gas Company No. 248 Truckenbrod, is rimmed down to the Trenton, but as the rimming left a rough hole, unsatisfactory for casing, some further work will be required before casing can be set. Further north, Union No. 249 Mancel 1, Tilbury East township, is drilling at about 1900 feet. Two miles south of Tilbury Eugene Coste & Company No. 6, Malott, is rigged up for a deep test and will spud in within a day or two.

In Norfolk county the Dominion Natural Gas Company has located a new test for gas near Seminole; and the contractor is moving in his tools for the test. Dominion No. 6, Lakeview in Elgin county, is at a standstill. In Essex Bon Japserson No. 6, near Kingsville, is reported ready to resume after a fishing job, and will finish within a few days.

Western Canada is still inactive; though independent refineries are in various stages of completion, mostly planned to operate on Montana crude. At Lethbridge the Standard Refining Company plant is ready to operate under the superintendence of C. W. Stone of Miles City. This plant will run on Kevin-Sunburst crude. Alberta Refining Company is laying foundations for a plant at Coutts, Alta., tentatively scheduled to start running in March. At Edmonton, Alta., the Alberta Oil Refiners, Ltd., has leased a 40-acre site for a 500 barrel plant to commence construction in the spring. This enterprise is capitalized at $165,000, with head office at Edmonton; the directors are John I. Mercier, president; F. A. McCord, secretary-treasurer and John P. Giefer, all of Edmonton.

In Sweetgrass district there is sound talk of the Mutual Oil Company starting development work next spring on the Canadian boundary. Rumor also associates the Shell interests with the British and Australian capitalists who are to finance the proposed merger of local companies operating in the Quarantine Reserve area.

A new test in the Okotoka field is being drilled by the McLeod Oil Company on section 1-2-3w5, close to the old Alberta Petroleum Consolidated producer. The latter got a good production of oil around 2500 feet, and the McLeod well is designed to test the same horizon.

British Petroleums, Ltd., is arranging for further development in the Irma-Wainwright field, east-central Alberta. Tentative plans contemplate the bringing of two rotary outfits from Texas in the spring and the drilling of six tests during the coming season. Some plans for utilization of the gas production from the British Petroleum wells are also being considered, including the construction of a gasoline absorption plant and a plant for the manufacture of byproducts; and the piping of the residual gas to towns in the vicinity of the field.

Plans for development of the tar sand deposits of the Athabaska are being matured by E. E. Smith and Geo. S. Hoxie, representing the Alberta Tar Sands Products Company. The present plans contemplate the utilization of the tar sands primarily for paving purposes, the extraction of the crude oil being a minor consideration. It is proposed to convert the deposits into paving blocks; and a 200-ton plant will be constructed if Alberta develops a market for paving materials in sufficient quantities.

Utah and Colorado capitalists are reported interested in a project to develop extensive oil shale deposits in northern Ontario near Georgian Bay. These deposits were worked for a short time in 1859, but the shale oil plant had to be abandoned owing to the ruinous competition of free oil from the Pennsylvania and Ontario wells of that period. The black shale has a sufficient oil content for commercial development under existing market conditions.

Frank Phillips, president of the Phillips Petroleum Company of Bartlesville, Oklahoma, has returned to New York.

H. H. Stillwell of Waukon, Iowa, is visiting his son, A. B. Stillwell of Tulsa, who is connected with the Guiberson Corporation

Activity Increasing in Eastern Fields; Few Small Extension Wells Now Reported

Pittsburgh, Pa., Feb. 12.—Continued increase in price of credit balances is keeping operators in Eastern fields on their toes. Work has not yet started in an active way. However, it is not the fault of parties anxious to begin real active development. Weather conditions and the bad shape of some of the unpaved roads made work impossible. Even along paved roads the trade is up against it, for the moving of the heavy machinery from the good highways to the locations on the leases is almost an impossibility at this time and no great activity is looked for until after the April rains.

Pennsylvania operators that were asking for higher prices for the Pennsylvania grades of crude are encouraged over the way the price has gone. With Northwestern Pennsylvania and New York State crude at $4.50 and other Pennsylvania grades at $4, many operators feel that they can well afford to take hazardous chances in drilling stripper pumpers. Others claim that crude costs the well owner close to $4.87 per barrel to produce.

There is no doubt in the minds of those interested in the East but what 1924 is marked as one of the great years for the industry. During the bad weather operators are not quiet, but are scattered over a vast area of territory picking up leases for future development.

The week developments in the East showed a substantial gain over the previous week in new completions, although but a slight change in production is noted. There were 125 wells completed, with 25 dry holes, 33 gas wells with a combined volume of 60,000,000 cubic feet of gas, and 67 oil wells with a new production of but 855 barrels. Pennsylvania and West Virginia took the lead in work. Few wells were reported from other fields. Indiana showed the best wells, although but two were completed. They were southeast of Portland, in Pike township, Jay County, and owned by Masters & Colt, being Nos. 12 and 13 Ritenour lease, with 90 and 160 barrels respectively. Oil was found in the Trenton formation at 1300 feet.

The old Bradford field of Pennsylvania that has been drilled over and over again for the past 60 years is still showing creditable producers ranging from two to 15 barrels. In Armstrong County a couple of nice producers were found, one at 50 barrels and another at 25 barrels. The best completion for the week from the Allegany County, New York, field was a seven barrel pumper. West Virginia's best oil producer for the week was 15 barrels, but plenty of natural gas was uncovered, as the bulk of the work at this time is being done by gas companies.

The finding of a 50 barrel well in Cumberland County, one at 35 barrels in the Owensboro district of the western division of the state and one at 30 barrels in Warren County, were the main features of the Kentucky fields. The best completion in the Central Ohio field was a 40 barrel deep Clinton sand well in Perry township, Hocking County, and a wildcat which was drilled by the Ohio Fuel Gas Company, making quite an extension to the old producing area. In the Northwestern Ohio area the leading feature was the opening of a 25 barrel well far in advance of production south of the old producing lines and in Shelby County. Several new wells are now starting in the vicinity of the new find.

Completions for Past Week in U. S. Fields

Kansas

Company, Well, Location—	Initial Production Bbls.	Depth
Coffee County—		
Pryor & Lockhart's Butler 2, NW SW SW, 1-21-13	*	1827
Arnold O'Day's Nakins 5, SW SW SW 11-23-13	*	500
Elk County—		
Anderson et al's Harris 1, C NW SW, 27-29-9	¶	1505
Thad O'Day's Troop 1, SE SW SW, 15-30-11	*	2158
Laskey & Rhodes' Fleak 1, SW NW 21-30-11	15	1257
Greenwood County—		
Empire's Seeley 7, NE SE NE 5-23-11	75	1930
Tidal Oil Co.'s No. 7, SE NE NE 5-23-11	20	2004
Rodgers et al's Agard 1, NW SW NE 14-24-9	100	2180
Griggs et al's Sallyards 1, SE NE SW 29-25-9	*	2541

Oklahoma

Company, Well, Location—	Initial Production Bbls.	Depth
Beckham County—		
Turman Oil Co.'s Ross 1, SW SW NE, 4-8-23w	*	3000
Creek County—		
W. L. Clark Oil Co.'s Barnett 1, NW SW 3-16-9	*	3489
Laurel Oil & Gas Co.'s Knoll 4, NW NE SW 22-16-8	800	3119
Phillips Pet. Co.'s M. Tiger 4, NW SW 4-15-9	700	2917
Hetchochoney 1, SW SE 30-15-8	¶	2974
Shaffer O. & G. Co.'s Warnachee 3, NW SW SW 15-15-8	25	3399
Cosden O. & G. Co.'s Warnachee 1, SW NW SW 15-15-8	10	3405
Damar Oil Co.'s N. Gooden 1, SE NE 14-14-8	*	3842
Gypsy Oil Co.'s W. Wildcat 2, SW SE SE 8-15-8	720	2785
Grant County—		
Western States' Stuart 4, SE NE SE 22-27-3w	*	2680
Hughes County—		
Tidal-Osage's Baker 1, SW SW SE 4-9-11	100	2960
Gilcrease's Simon 1, NE NW 9-9-9	792	3318
Kay County—		
Manahan's Bonnicamp 2, SW NE 16-27-1w	130	3145
Muskogee County—		
Sadler & Klatt's Harjo 1, NE NW 26-14-18	*	2397
Harsha et al's McDaniel 1, S E L E½ NW 4-15-15	*	2570
Noble County—		
Prairie O. & G. Co.'s Novotny 5, SE NE SE 10-23-1w	*	2645
Okfuskee County—		
Sinclair's Smith 3, SW SW NE NW 13-11-11	¶	2781
Okmulgee County—		
Sheridan Oil Co.'s Willis 1 C N L SW SW 22-16-12	270	2539
Waite Phillips' Willis 2, C S L NW SW 22-16-12	260	2538
Bob Galer et al's Carney 1, NW SE 36-15-12	*	2879
Robinson & Zahnisher's 2, SE NE SW 18-15-12	*	2767
McGranahan's Scott 3, NW NE NW 14-13-14	¶	1912
Preston Oil Co.'s Cumseh 1, C W L SE NE 26-13-13	*	2203
Ralco Oil Co.'s Webster 5, C NE NE 33-12-12	30	1502
Osage County—		
Cosden O. & G. Co.'s Sand 7, NW NW 10-27-5	800	2924
Prairie O. & G. Co.'s Hobson 2, SE NW 9-27-5	1400	2937
Geo. Boles' Gaston 2, NE SE NW 4-27-5	400	2928
Sinclair O. & G. Co.'s No. 1, SW NE 15-27-5	500	3042
Twin States' McCassey 7, SE SW NW 15-27-5	25	2982
Skelly Oil Co.'s No. 3, NE NW SW 23-27-5	425	3045
No. 5, SW NW SW 23-27-5	800	3012
Gypsy Oil Co.'s No. 10, NW NW NW 23-27-5	780	3033
No. 11, SW NW NW 24-27-5	500	3015
Dye & Tomlinson's Thompson 6, NW SE SW 12-27-5	482	3008
Carter Oil Club 1, SE SW 10-27-5	800	3045
Club 2, NW SW SW 10-27-5	995	2993
No. 12, NE NW NE 22-27-5	480	3056
Phillips-Skelly's No. 2, SE SW NW 23-27-5	1000	3040
Pawnee County—		
Dempsey Oil Co.'s Lesher 1, NE SW NE 21-20-6	30	2832
Seminole County—		
Dixie Oil Co.'s Long A-1, NE SW NW SW 33-8-8	300	3208
Harris 2-A, SW NW NE 32-6-6	205	3133
Producers & Refiners Corp.'s Foster 4, SE NW NW 33-8-8	400	3181
Independent's Foster 1, NW NE SW NW 33-8-8	400	3169
Tulsa County—		
Prairie O. & G. Co.'s Gilcrease 2, C NW SE 34-17-12	¶	1760

California

LONG BEACH

Company, Well, Location—	Initial Production Bbls.	Depth
Mission Bells' Taylor 2	700	4701
Shell's Pickler 6	1100	4073
Shell's Binkler 2	585	5150
Doyle-Clune's No. 2	4000	5000
Petroleum Midway's Fields 4	200	4600
Petroleum Midway's Davidson 3	100	4763
Shell Co. Alamitos 10	480	4352
Alamitos 11	3800	5050
Petroleum Midway Foster 2-1	100	4800
Perrin 1-A	410	5000
Fields 3-A	200	4861
Davidson 4	1500	4800
Marine Oil Co.'s (Apex) wo	1000	5243
Transport Oil Co. Lindis 1, wo	2600	5050
Golden Eagle No. 1	250	5006
Dabney Oil Co.'s Moore 16	500	5130
Pan Pacific Osborne 2	350	4465
General Petroleum K & H 2-A	275	4900
Atlantic Petroleum Alsop 2	1000	4723
Black Gold Garner Kelly 1, wo	200	4303
M. H. Whittier No. 1	75	5000

TORRANCE

Company, Well, Location—	Initial Production Bbls.	Depth
Doruth Oil & Inv. Co.'s Whitacre 1	250	3772
Julian Pet. Corp.'s No. 1	100	3852
J. A. Nugent's No. 1	300	3770
Federal Dr. Co.'s Gerner 1, wo	150	3570
Pet. Securities' Marble 9	800	3770
Bush Vorheis' Rogers 1, wo	175	3770
Superior Oil Co.'s Perham 10-A, wo.	100	3790
Gladys Oil Synd.'s No. 1, wo	175	3790
Geo. F. Getty's Neill Com. 7	150	3650
Fortuna Oil Co.'s Clarke 1	220	3755
Petroleum Midway Wilson Com. 2	200	3750
Wilson Com. 3	400	3725
Universal Consolidated Jones 1	250	3800
Moore 8	400	3775
Arlene Oil Synd.'s No. 1	225	3790
Huntington Signal Barlow 1	400	3768
Black Diamond Glenn 1	200	3780
Julian Pet. Corp. No. 2	750	3810
No. 4	950	3796
Beaver State No. 2	500	3787
C. C. M. Oil Co. Kettler 2	265	3780
Torrance 28	750	3700
Sentinel Oil Co. Hunter 1	400	3793
Superior Oil Co. Torrance 10	100	3841
Hubb Oil Co. Cook 2	150	3763
Superior Oil Co. No. 3	*	....
Petroleum Securities No. 6	360	3800
Union Oil Co. Weston 1	*	5731
W. H. Keck's No. 3	*	3743

SANTA FE SPRINGS

Company, Well, Location—	Initial Production Bbls.	Depth
Standard's Koontz 5	100	4629
Union's Bell 1, wo	570	4670
Union's Farwell 6	900	4675
General Petroleum's No. 12	80	4603
Petroleum Midway Mattern 3-7	15	4600
Weaver 2	50	4617
Standard Walker 10	60	4550
A. O. Houghton 1	1000	4668
General Petroleum Santa Fe 16	235	4535
Mohawk Oil Co. Batson 4	250	3826
Southern California No. 2	140	4659
Union's Farwell 9	1000	4675

HUNTINGTON BEACH

Company, Well, Location—	Initial Production Bbls.	Depth
Geo. F. Getty's Andrews 1, wo	475	4879
Federal Consolidated's No. 1	150	3677
Fred Rather No. 1	200	4850
A. B. C. Syndicate No. 2	65	4525
Petroleum Midway Brown 2	150	3700
Geo. F. Getty No. 3	65	3800
The Petroleum Co. Porter 3, wo	100	3400

Arkansas

Company, Well, Location—	Initial Production Bbls.	Depth
Stephens Field, Columbia County—		
Atlantic Oil Prod. Co.'s Webfer A-1, 25-15-20	40	2120
Smackover Field, Ouachita County—		
Arkansas Nat. Gas Co.'s Patton 4, 31-15-16	100	2255
Atlantic Oil Prod. Co.'s Rowland 2, 29-15-16	170	2275
Bailey et al's Cade 1, 18-15-16	*	2440
Bashara et al's Patton 2, 32-15-16	40	2268
Burton Trust's Hughes 6, 28-15-16	115	2298
Clark et al's Berry 5, 24-15-17	170	2310
El Dorado Union Oil Co.'s Shirey 4, 30-15-16	150	2290
Forrest Oil Co.'s Minor 2, 29-15-16	100	2395
Gulf Ref. Co.'s Hampton-Meeks 2, 19-15-16	150	2292
Magnolia Pet. Co.'s Patton 4, 32-15-16	100	2256
Smith 4, 31-15-16	120	2246
Mangus et al's Fee 1, 24-15-17	125	2315
Myar Estate's Fee 2, 30-15-16	110	2285
Smith Ref. Co.'s Fee 5, 30-15-16	70	2285

THIS WEEK IN OKLAHOMA BY TABULATION

District—	New Rigs	Loca-tions	Dr. Wells	Comple-tions	Pro-ducers	Gas Wells	Fail-ures	Init. Prod.
Ardmore	22	12	114	2	2	..	..	892
Bristow	32	2	38	8	5	1	2	2,255
Cushing	16	6	59	1	1	..	..	30
Duncan	4	5	75	1	..	..	1	...
Okmulgee	64	1	69	8	3	2	3	560
Osage	64	35	231	14	14	..	..	8,987
Muskogee	8	..	16	2	..	..	2	...
Weleetka	2	4	40	1	..	1	..	...
Tonkawa	27	6	72	1	..	..	1	...
Wewoka	5	8	36	4	4	..	..	1,305
Totals	244	79	750	42	29	4	9	14,029
Last week	240	81	...	74	59	7	8	34,825

Company, Well, Location—	Initial Production Barrels	Depth
Patton 4, 31-15-16	100	2265
Solmson et al's Fee 2, 30-15-16	75	2270
Standard Oil Co.'s Solmson 4, 29-15-16	120	2280
The Texas Co.'s LaGrone 1, 30-15-16	125	2280
Walker et al's Mangue 1, 24-15-17	*	2430
Wingfield et al's Fincher 1, 32-15-16	100	2260
Smackover Field, Union County—		
Humphries Oil Co.'s Hayes 1, 21-16-15	150	2050
Hicks 1, 20-16-15	220	2090
Lion Oil & Ref. Co.'s Murphy 3, 8-16-15	300	2098
Page et al's Helms 1, 23-16-15	110	2018
Standard Oil Co.'s McCauldin 1, 6-16-15	140	2280
Tidal Osage Oil Co.'s Vestal 8, 17-16-15	540	2088
Total, 26 wells	140-3360	

Louisiana

Bellevue Field—		
Louisiana Oil Ref. Corp.'s Bodcau D-13, 15-19-11	¼-35	328
Weatherbee et al's Fee A-11, 15-19-11	20	425
Total, 2 wells	¼-55	
Homer Field—		
Standard Oil Co.'s Shaw 25, 30-21-7	*	852
Monroe Gas Field—		
Carson Carbon Co.'s Erwin 1, 28-20-3, Morehouse Parish	15	2250
LaDal et al's Fee 16, 22-20-5 Morehouse Parish	20	2290
Southern Carbon Co.'s Fee 25, 15-19-5, Ouachita Parish	5	2250
Standard Carbon Co.'s Puckett 2, 22 19-5, Ouachita Parish	5	2244
Total, 4 wells	45	
Bellevue Field, Bossier Parish—		
Louisiana Oil Ref. Corp. Bodcau D-12, 15-19-11	30	329
Elm Grove Field, Bossier Parish—		
Skannal et al Fee 1, 22-17-12	2½	2785
Monroe Gas Field, Morehouse Parish—		
Morris Trust Rogers 1, 15-20-5e	14	2283

Company, Well Location—	Initial Production Barrels	Depth
SOUTH LOUISIANA COMPLETIONS		
Vinton—		
Gulf Ref. Co. of La.'s G. & N. G. 26, wo	2500	2200

Texas

ARCHER COUNTY COMPLETIONS		
E. J. Anderson's L. F. Wilson 1	*	1860
Camp Oil & Gas Co.'s H. Wilmut 6	20	1606
L. F. Wilson 6-H	150	1603
J. E. Dale et al's L. F. Wilson 7-C	*	1615
L. F. Wilson 8-C	*	1625
Dorain et al's L. F. Wilson 3	225	1605
Empire Gas & Fuel Co.'s L. F. Wilson 2-B	50	1605
Graham et al's L. F. Wilson 1	*	1615
Gwynn, P. F. et al's Mrs. J. H. Carter 8	50	1589
Mrs. J. H. Carter 9	90	1580
J. V. Henley et al's L. F. Wilson 1-D	*	1620
Kentucky Oil Corp. et al's L. F. Wilson 1-E	200	1588
Maer & Staniforth et al's L. F. Wilson 1-D	175	1400
E. R. Fain (Trustee) L. F. Wilson 2	*	1625
J. T. Pyles' J. H. White 1	*	1650
Staley & Wynne's L. F. Wilson-Trux 1	225	1598
Tackett et al's Mrs. J. E. Parrish et al 2	60	1600
Texas Wonder Pool Oil Co.'s W. F. Parrish 1	*	1600
Texhoma O. & R. Co.'s Mrs. J. H. Carter 8	*	1750
L. F. Wilson 4-B	275	1603
United Royalties' J. H. White 1	*	1700
Underwood Drilling Co.'s L. F. Wilson 2	*	1860
Panhandle Ref. Co.'s W. F. Parrish 2	300	1598
R. M. F. Oil Co.'s L. F. Wilson 2-D	400	1592
L. F. Wilson 5-D	435	1595
Carl Parker et al's J. L. Jackson 6	110	1797
Lanning & Moninger et al W. F. Parrish 1	400	1596
Dr. C. W. Wallace K. & K. 22	75	1763
BURKBURNETT COMPLETIONS		
J. O'Neill's Saunders Estate 5	*	1844
Bonner & Chandler's H. Beach 4	20	1260
ELECTRA COMPLETIONS		
A. G. Baldwin et al's W. P. Herron 1	*	1055
Texhoma Oil & Ref. Co.'s W. T. Waggoner 13-F	75	1935
S. B. Burnett 4	250	1955
YOUNG COUNTY COMPLETIONS		
Richardson & Gatewood's Neil Wilburn 1	*	1650
K. M. A. DISTRICT AND IOWA PARK COMPLETIONS		
Scott & Gilliland's W. H. Chilson 2	*	1820
Taylor et al's Nat Henderson 1	*	2015
Texhoma Oil & Ref. Co.'s Hamilton et al 3	60	1819
P. B. Cox T. F. Mitchell 3	15	283
T. F. Mitchell 4	15	427
Ross & Fields T. F. Mitchell 6	15	440
DESDEMONA-GORMAN		
Lone Star Gas Co. Hogg 2-A	8	3139
Sabanna Oil Co. S. H. Stokes 1	*	3430
EASTLAND-RANGER		
George Ablon et al 1	*	554
Eby et al Miller 5	20	3700
Grisham et al Holloway 1	*	500
Humble Oil & Ref. Co. Merrill 5	25	1230
States Oil Co. Quiett 4	100	3545
The Texas Co. L. A. Hightower 5	20	1216
STEPHENS COUNTY		
Haile & Knight G. P. Jones B-1	150	3184
Roeser & Pendleton G. P. Jones	250	3189
IBEX (SHACKELFORD COUNTY)		
Landreth Prod. Corp. Wm. Poindexter 14	5-15	3572
CORSICANA-POWELL		
Empire Gas & Fuel Co.'s Sweatman 5	*	1555
John Hoosier et al's Hill "A" 1	1	1280
Humble Oil & Ref. Co.'s Cerf 7 "A"	250	2982
Longley et al's Swink 1	100	2960
Simms Oil Co.'s J. T. Rose 5	200	2955
Allen 1	*	2785
Atlantic Oil Prod. Co. W. S. Kellum 9	300	2950
W. S. Kellum 12	125	2948
Will Goldman 1	*	3185
Cranfill-Penn & Atlantic Oil Prod. Co. Reid 1	*	3085
Humble O. & R. Co. M. A. Crews 9	150	2982
I. N. Cerf 5-B	300	2970
Garland H. Kent R. D. Flemming 12	300	2965
Mills Bennett et al K. Wollens 1	200	2962
Barkley & Meadows I. N. Cerf 3	200	2868
W. H. Parker et al I. N. Cerf 1-B	600	2970
Reeves & Jackson K. Wollens 1	*	2972
Simms Oil Co. H. B. Boyd 4	3345	2970
R. H. Boyd 3	500	2970
Texas Co. M. Autry 1	*	3015
Witherspood Oil Co. J. O. Burke 10	600	2867
GULF COAST		
Goose Creek—		
Gulf Prod. Co.'s Gaillard 3 "A", wo	100	2400
Batson—		
Duetser Trustee's Hooks 1	950	1325
Ada Belle Oil Co.'s Honeymoon 65	20	360
Gulf Prod. Co.'s Wing 155	50	1125
Wing 155½	20	700
Sour Lake—		
T. G. Barclay's Rodgers 4	10	425
Orange—		
Gulf Prod. Co.'s Kishi-Lang "A" 6	1700	4100
LULING		
Caldwell County—		
United North & South Oil Co.'s T. C. Gideon 2	1200	....
Mills Mercer 5	1200	....
LULING		
Caldwell County—		
United North & South Oil Co. Hardeman 6	1000	....
Proctor 2	800	....
Mercer 3	1100	....
Grayburg Oil Co. Proctor 3	500	....

OIL FIELD WATER CAN

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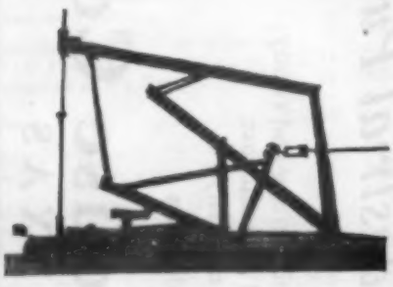
Say you saw it in The Oil Weekly

UNION GETS GOOD WELL IN OLD VENTURA FIELD

Los Angeles, Calif., Feb. 9.—The Associated Oil Company this week completed the best well drilled in at the old Ventura field for many months, No. 8 started out making 2350 barrels at 4367 feet, cut 26 per cent. Later the well cleaned up and late in week was making 1400 barrels, only 7 per cent cut. The gravity is reported to be 30. The well is flowing through a six and one-fourth inch string and has a casing pressure of 420 pounds. The new well is located about one-half mile east of Ventura River and is north of the town of Ventura. The action of the new producer is expected to start further drilling in that field by the companies holding the land under lease. This is an old field that has received but little attention in the past while the Los Angeles Basin fields were producing so much oil.

Los Angeles, Calif., Feb. 9. — The Union Oil Company has cemented casing at 3920 feet, six feet off bottom in its No. 1 Rosecrans at Athens on the Hill, and there is a report going the rounds that "indications are good" although Union officials refuse to confirm the rumor. Another indication that Union expects something in that locality is the taking over by the Union of the Potter Oil Company holdings nearby and near Gardena, which includes a well that has been drilled to 4520 feet.

Jensen Brothers Straight Lift Jack



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Hosmer Quick Acting Tubing Heads
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Safety Joints
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Liner Setting Tools
Cox & Delaney Line Shaft Spools
Drilling Nipples
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Winger Overshots
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Eastern States

PENNSYLVANIA

Company, Well, Location—	Initial Production Bbls.	Depth
South Penn Oil Co. Weston 71	12	....
Rounds 40	10	....
Jones 190	6	....
Jones 191	3	....
Curtis 30	3	....
Riddle 31	3	....
Leasure 1	3	....
Fee 42	5	....
Bingham 570 tract 87	5	....
Middaugh 1	3	....
Buchanan 1	7	....
Forest Oil Co. Baldwin 1	3	....
Porter 1	3	....
Noble 1	*	....
Golden & Co. Griffith 1	6	....
Redfield & Co. Bingham 170 tract 41	7	....
Eldred & Co., Lawton 23	3	....
Taft & Stephen Meldrum 1	4	....
C. A. Duke Duke 1	5	....
McCool & Co. Wright 1	10	....
M. Hannum Drake 1	4	....
Kennedy Co. Bingham 490 tract 95	4	....
Bingham 491 tract 1	*	....
Associated Prod. Co. Bingham 568 tract 253	2	....
Butler County—		
Little & Co. Little 1	5	....
Pitts & Co. Montgomery 3	*	....
Pfeifer & Co. Ramsey 2	4	....
Peters & Farlia Peters 2	2	....
Kradel & Co. Rowan 1	¶1	....
Rush & Co. Rush 1	¶1	....
Venango County—		
M. W. Ziegler & Co. Ziegler 1	4	....
Thompson & Rice T. & R. 1	3	....
Bohn Gas & Oil Co. Bohn 1	¶2	....
Sloan & Co. Hines 14	3	....
S. Sutton Sutton 1	*	....
Clarion County—		
Kline, Gibson & Co., Kline 3	3	....
Alum Rock Gas Co. Kapp 5	2	....
A. J. Vogelbacher & Co. Neuland 1	*	....
Elk Gas Co. Corbett 6	2	....
Center-Middle Field—		
Titusville Co. Hoffman 24	7	....
H. Siggins Lot 51 1	¶½	....
Holmes & Co. Alcorn 1	*	....
Greene County—		
Manufacturers L. & H. Co. J. L. Johns 1	¶3	....
Greensboro Gas Co. Thompson Hrs 1	¶2	....
S. H. Wise 1	¶½	....
Armstrong County—		
Scrubbgrass Oil & Gas Co. Unknown 1	50	2727
Bauer & Co. Bauer 3	25	....
Mercer County—		
Erie Oil & Gas Co. Baker 3	2	....
Baker 4	2	....

NEW YORK

Allagany County—		
Childs &Co. Childs 1	3	....
S. Sawyer Sawyer 1	3	....
M. Cromley Coast 1	7	....
Richart & Co. Richart 1	3	....
C. Meade Meade 1	3	....
Empire Gas & Fuel Co. Empire 1	3	....

WEST VIRGINIA

Roane County—		
United Fuel Gas Co. R. Jarvis 1	¶2½	....
T. V. Ashley 1	¶2	....
United Fuel Gas Co., Thos. Allen 1	5	....
Morley Oil & Gas Co., M. E. Morley 3	¶2	....
Empire Pet. Co. O. F. Hunt	*	....
Ritchie County—		
South Penn Oil Co. A. N. Watson 1	¶1½	3036

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FACTORIES:

Houston, Texas **Memphis, Tennessee**

Company, Well, Location	Initial Production Bbls.	Depth
J. Y. Locke & Co. J. A. Hall 2	¶2	....
J. F. Deem & Co. Wm. Deem 1	¶¼	....
Hope Nat. Gas Co. C. J. Williamson 1	¶½	....
Braxton County—		
Philadelphia Oil Co. G. B. Howell 1	*	....
G. B. Howell 2	¶3	....
Mill Fork Oil Co. C. R. Bourns 1	¶3	....
J. C. Timms & Co. Susan Baker 1	¶2½	....
West Virginia Gas Co. W. M. Lockhard 1	*	....
Tyler County—		
American Dev. Co. R. Thompson 1	¶4	2700
Carter Oil Co. J. S. Hamilton 1	5	1200
H. L. Lambert A. H. McGinnis 7	*	....
Wood County—		
Larkin Oil Co. McTaggart Hrs 1	2	....
Park Bowser Brown Hrs 1	3	....
J. E. Johnson H. H. Uhl 5	*	....
Doddridge County—		
Unknown Parties B. Smith 1	¶2	....
Hope Cons. & Ref. Co., Mark Smith 1	12	....
Cabell County—		
Harshberger O. & G. Co. Morris Jordon 1	¶3½	....
Aetna Oil &Gas Co. R. W. Williams 3	¶½	....
Lincoln County—		
Superior Gas Co. G. H. Adkins 1	¶3	....
Cambridge Gas & Carbon Co. A. Curry 1	¶½	....
Gilmer County—		
Carnegie Nat. Gas Co. H. L. Farnsworth 1	*	....
J. F. Crook 1	¶3	....
Pleasants County—		
Albert Neely & Co. A. Smith 2, 3	*	....
Harrison County—		
Clarksburg Light & Heat Co. L. Q. Gaines 1	¶4	....
Calhoun County		
Hope Nat. Gas Co. John Arnold 1	¶½	....
Marshall County—		
Preston-Marshall O. & G. Co. Wm. Logson 1	¶3	....
Lewis County—		
South Penn Oil Co. Evan Keyser 1	¶½	....
Brooks County—		
Myers & Co. Isaac Ashton 2	¶2½	....
Marion County—		
Fairmont Gas Co. Dewey Brooks 1	¶3½	....
Kanawha County—		
Owens Bottle Machine Co. Great Kanawha Coal 17	*	....

KENTUCKY

Cumberland and Monroe Counties—		
Combest Oil Corp. A. Huddleston 5	50	550
Seaboard Oil Co. C. Groce 2	*	....
Hooks, Ross & Wise Sam Riddle 2	*	650
Wilcox Bros. Sarah Sheckles 1	*	850
Paragon Dev. Co. M. L. Shear 1	*	1140
Johnson-Magoffin Counties—		
Atlantic Oil Prod. Co. Darius Conley 1	5	....
Carroll Oil & Gas Co. James Borton 3	¶½	....
Tom Hays 1	¶½	....
R. G. Gillespie Darius Conley 12	10	....
Warren County		
Ruby Consolidated Oil Co. Price-Hall 3	30	1163
E. M. Treat & Co. Seb Smith 18	25	1017
White Oak Fuel Co. Perkins 2	6	476
Owensboro District—		
C. E. Daugherty & Co. V. Miller 3	35	700
Wood Oil Co. Griffith 1	¶¼	628
Barren County—		
Lew J. Emery Jr. & Son Harston 12	5	279
Elem Oil & Gas Co. Warder 7	*	475
Lawrence-Johnson Counties—		
Union Gas & Oil Co. Parish Sparks 7	25	800
Wayne County—		
George W. Smith George Phipps 3	*	....

SOUTHEASTERN OHIO

Morgan County—		
Ralston & Maynard John Banks 1	*	....
Belmont County—		
William Shaffer & Co. Sarah E. Moore 1	*	....

CENTRAL OHIO

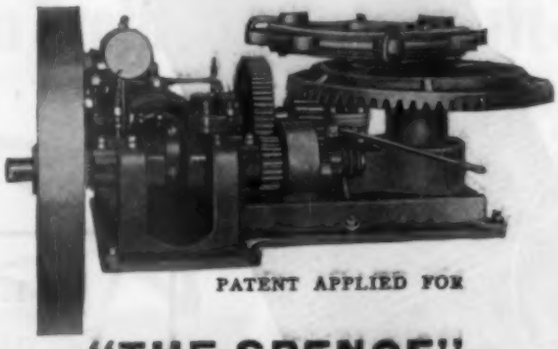
Hocking County—		
Ohio Fuel Gas Co. Fried 1	40	....
Carbon Hill O. & G. Co. Peter Reedy 2	*	....
Fairfield County—		
Montana Oil & Gas Co. Levi Kennedy 5	10	....
Ohio Falls Oil & Gas Co. Seifert 1	*	....
Perry County—		
Perry Pet. Co. Sunday Creek Coal 2	18	....
Knox County—		
Halbrain & Reed Elliott Schools 5	5	800
Licking County—		
Wehrle Stove Co. C. R. Fetty 4	3	....

NORTHWESTERN OHIO

Hancock County—		
Dave King, Jr. & Co. E. C. Shawman 17	25	1330
Ohio Oil Co. H. McMurray 32	10	1334
Shelby County—		
Eilerman Bros. Eilerman 1	25	1300
Mercer County—		
J. H. Thompson Ben T. Post 2	5	1293

INDIANA

Pike County—		
Masters-Colt Oil Co. Ritenour 12	90	1200
Ritenour 13	160	1198



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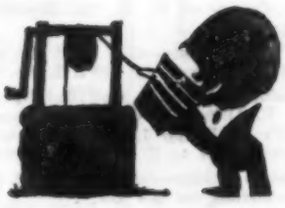

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Permits Granted and Locations for New Wells
(Arkansas—Louisiana—Texas)

TEXAS

Archer County—Maer Standiforth's L. F. Wilson 2, Amer Trib sur blk 27 150 ft to N and W lines. Kemnitz, Paxton & Payne's McCall & Sanderson 4, D.C.S.L. sec 3, 310 ft W No. 1; 5, 750 ft NE No. 1; 6, 310 ft E No. 1. C. H. Verschoyle's L. F. Wilson 2, Amer Trib sur blk 27 680 ft W No. 1; 3, 150 ft to N and W lines. Murchison & Fain's L. Wilson 2, Amer Trib sur lot 702, 300 ft NE No. 1. Empire Gas & Fuel Co.'s L. F. Wilson 6B, Amer Trib sur blk 23, 300 ft E No. 3; 4B, 195 ft to E and 150 ft to S line; 5B, 325 ft W No. 4B. T. A. Norwood's Kemp & Kell 1, SP Ry sur sec 6, 150 ft to S and E lines. Fastow & Smith's M. M. Plowman 1, H. Coizene sur blk 28, 150 ft to N and E lines. F. G. Beaudoin's A. D. Thompson 1, Amer Trib sur blk 21 150 ft to S and W lines. W. E. Norton's R. N. Graham Jno Snell sur 150 ft to N and E lines. Ray, Massie & Featherston's L. F. Wilson 3, Amer Trib sur blk 27 300 ft N No. 2; 7, 200 ft E No. 5. Ferguson, Hawkins & Hester's Carter Bros. 3, Amer Trib sur blk 63 250 ft S No 2. Mrs. H. B. Wallace's Kemp & Kempner 24, SP Ry sur No. 2, 300 ft E No. 16. Swastika Oil Synd.'s N. D. Goldsmith 2, J. L. Anderson sur blk 5, 300 ft SW No. 1. P. Gwynn et al's L. F. Wilson 3, Amer Trib sur blk 27 150 ft to S and E lines.

Bexar County—National Oil Corp.'s T. G. Oliver 6, abst No. 4 900 ft W No. 5. Applewhite Prod. Co.'s T. C. Applewhite 2, B. Martenig sur 400 ft to E and 200 ft to S line.

Bastrop County—F. H. Wickett's F. M. Litton, 1, A. Litton sur 448 ft to S and 540 ft to E line.

Brown County—Crabb, McNeil and Tom Bryant's W. B. McDonnough 6, W. B. Travis sur 150 ft to S and W lines.

Brazoria County—Humble Oil & Ref. Co.'s T. L. Smith 2, J. H. Bell sur 50 ft to N and 1100 ft to E lines.

Caldwell County—Rio Bravo Oil Co.'s J. M. Merriweather L6, Jno Henry sur 300 ft E No. 5. United North & South Oil Co.'s W. M. Mercer 4, Jas Barry sur 389 ft E No. 3; Mercer 6, Reaville & Dykes sur 300 ft S No. 4; A. Mercer 5, Reaville & Caldwell sur 150 ft to S and E lines; F. M. Mercer 3, Jas Berry sur 352 ft E No. 2.

Clay County—Lone Star Gas Co.'s Skelly 10, P.C.S.L. blk 48 1250 ft to N and 250 ft to W line.

Callahan County—Dallas-Bradford Oil Co.'s Mrs. I. Slaughter 6, D. & D. Asy sur 300 ft E No. 1. Dickey Oil Co.'s L. H. Qualls 8, T. E.&L Ry sur No. 2287 300 ft N No. 6. Big Five Oil Co.'s Pruett 8, TE&L Ry sur No. 2277 150 ft to N and E lines. Shamrock Oil Co.'s W. Shackelford 2, TE&L Ry sur No. 2296 150 ft to N and E lines. F. Nickel's M. R. Surles 1, TE&L Ry sur No. 3157 966 ft to N and 350 ft to E line. W. E. Norman's J. B. Eubanks 2, TE&L Ry sur No. 2271 450 ft to S and W lines. Godley Oil & Gas Co.'s J. H. Ogle 9, TE&L Ry sur 300 ft S No. 8; 10, 300 ft S No. 6; 5, 300 ft N No. 4. Parkersburg Drilling Co.'s Mrs. W. E. Pruitt 4, 600 ft to W. and 150 ft to S line; 5, TE&L Ry sur No. 2278 450 ft to E and 150 ft to S line; 1, 150 ft to S and W lines. Pennant Oil & Gas Co.'s W. J. Bryson 2, W. B. Bryson sur 150 ft to N and W lines. H E M B Oil Co.'s J. Forbes 11, TE&L Ry sur No. 2279 450 ft to W and S lines. Welch & Haggerty's E. A. Park 1, TE&L Ry sur No. 3194 450 ft to N and 1050 ft to S line. Whittmer Property Trustee's Mrs. R. D. Williams 1, T &P Ry sur sec 1 1140 ft to S and 150 ft to E line. Ben Turgeon's J. F. Ogle 1, TE&L Ry sur No. 2297 450 ft to N and W lines; Mrs. L. J. James 1, Bayland Asy sur 900 ft to N and 300 ft to W line. L. D. Staton et al's J. B. Eubanks 1, TE&L Ry sur No. 2271, 450 ft to E and 150 ft to S line. Taylor & Lain's Hart 1, sec 7 D and D Asy sur NW cor. Swink & Davidson's A. M. Woods 1, TE&L Ry sur No. 2277 150 ft to S and W lines. J. H. Holdeman's Jno. W. Woods 1, TE&L Ry sur No. 2276 450 ft to S and E lines.

Eastland County—L. F. Brothers et al's W. P. Westmoreland 1, T. Tyler sur 150 ft to N and 50 ft to E line. G. E. Fagg's Mrs. G. W. Dawson 1, H&TC Ry sur 300 ft to N and E lines. R. L. Wright's C. B. Poe Jr. 1, sec 5 H&TC Ry sur NW cor. G. C. Schoonmacker's Gilbert Est 1, sec 7 H&TC Ry sur 150 ft to E and 220 ft to S line.

Falls County — H. A. W. Myrin's Chas. Hoeldtke 1.

Fort Bend County—Gulf Prod. Co.'s T. W. Davis 11, M. Young sur 300 ft E No. 10.

Gaudalupe County — Gulf Royalty & Prod. Co.'s J. E. Allen 1, H. Cottle sur SE cor. F. H. Wickett's L. Koepp 1, V. Duren sur 300 ft to N and 175 ft to E line.

Galveston County—Sun Oil Co.'s E. K. Cade 4, Fitzsimmons sur SW cor.

Harris County—Gulf Prod. Co.'s P. Smith 11, Wm. Scott sur 991 ft to W and 50 ft to N line. Marsalis Bros. T. W. Horn 2, Jas. Strange sur, 20 ft to E and 40 ft to S line.

Hardin County—S. R. Buchanan's Milhome 73,, J. Milhome sur, blk 6, 975 ft to E line. Humble Oil & Ref. Co.'s Hardin Co. 37, S. Jackson sur, 700 ft to S and E lines; M. Jackson 7C, J. M. & C. L. Jackson sur, 300 ft to N and 25 ft to W line.

Lee County—W. L. McClanahan's H. F. Fisher 1, Jas. H. Strobbling sur, 150 ft to S and W lines.

Liberty County—Republic Prod. Co.'s Fee 78, J. DeVore sur, 263 ft to N and 2842 ft to E line. Texas Co.'s D. Hannah 1, J. DeVore sur, 760 ft to N and 470 ft to E line. Gulf Prod. Co.'s Phoenix Dev. Co. 38, J. DeVore sur, 1200 ft to S and 680 ft to W line.

McMullen County—Grubstake Oil Co.'s H. L. Lark 5, E. W. B. Scrugham sur, 300 ft N No. 3; L. Jacob 3, Jno. Fadden sur, East Central. South Texas Co.'s W. L. Cox 3, M. Hely sur, E No. 1; J. T. Brown 1, M. Hely sur, 150 ft to N and 525 ft to E line. M. S. Holliday's Jno. Stitz 1, Jas. Garner sur, 150 ft to E and 225 ft to N line.

Mitchell County—California Co.'s Kloh & Rumsen 5, T. & P. Ry. sur, sec 33, 320 ft to S and W lines; E. Morrison 5, T. & P. Ry. sur, sec 21, 320 ft to N and E lines; L. C. LeSure 2, T. & P. Ry. sur, sec 40, 320 ft to N and W lines.

Navarro County—W. T. Parker's I. N. Cerf 2, Jas. Smith sur, 300 ft W No. 1. Humphreys Oil Co.'s W. J. McKie 63, Broyles & Buffington's sur, no plat. Simms Oil Co.'s H. B. Boyd 5, Meador & Bragg sur, 300 ft W No. 4. McMann Oil & Gas Co.'s P. A. Chapman 2, Jas. Broyles sur, 450 ft N No. 1; 8, H. G. Anderson sur, 430 ft NE No. 6. Tidal Oil Co.'s S. D. Ramsey 10-A, Jas. Smith sur, 151 ft N No. 2-A. J. K. Hughes Dev. Co.'s M. M. Alexander 8, W. H. Smith sur, 296 ft NW No. 4.

Reagan County—C. A. Hitt's Texas 1, abst No. 2, blk. 6, 400 ft to N and W lines.

Shackelford County—H. G. Bailey et al's W. H. Pritchard 4, Univ Lands sur, 150 ft to S and 750 ft to W line. Stoval Oil & Gas Co.'s R. E. Burns 10, sec 69, Insane Asy sur, 300 ft N No. 7. H. H. Adams' C. B. Snyder 1, sec 26, Insane Asy sur, 150 ft to N and W lines. Geo. Miller's R. A. Elliott 2, sec 5, Bayland Asy sur, 150 ft to S and E lines. H. H. Curtis' T. E. Hayden sur, blk. 114, Univ Lands sur, 450 ft to S and 150 ft to E lines. Graham & Lash's J. T. Cockrell 4, sec 15, Insane Asy sur, 300 ft E No. 3. J. S. Dennis' Fee 4, sec 15, Insane Asy sur, 200 ft to N and 150 ft to W line. J. D. Meridith's L. T. Wild 6, blk. 15, Univ Lands sur, 300 ft W No. 1. Shamrock Oil Co.'s J. W. Macon 10, sec 69, Insane Asy sur, 320 ft E No. 5. Gilbert & Jackson's B. H. Ezell 1, sec 3, Insane Asy sur, 150 ft to S and E lines. Corona Pet. Co.'s J. H. Jenkins 7, Insane Asy sur, 300 ft W No. 4. W. L. Terry's Broadfoot 4, Bayland Asy sur, 305 ft W No. 3. G. L. Powell's M. J. Leach Est 2, sec 40 Insane Asy sur, 150 ft S No. 1; 3, 150 ft S No. 2; 4, 150 ft W No. 1; 5, 150 ft W No. 2; 6, 150 ft S No. 5; 7, 750 ft to N and E lines.

Stephens County—Brown & Co. Inc.'s L. McClenney 1, T. E. & L. Ry. sur, 400 ft to N and E lines. H. D. Livingstone's J. C. Thompson 1, T. & P. Ry. sur, sec 85, 650 ft to E and 250 ft to S line.

Scurry County—I. B. Humphrey's W. P. Wellborn 1, sec 102 H. & T. C. Ry. sur, 660 ft to W and 100 ft to N lines.

Wichita County—Ferguson & Watson's W. T. Waggoner 2, sec 30 H. & T. C. Ry. sur, 300 ft N No. 1. W. T. Allen's J. E. Roller Est 2, R. J. Scott sur, blk. 2, 300 ft N No. 1. Wille & McNees J. & J. Waggoner 2, M. A. Willis sur, blk. 4, 300 ft to S and W lines. Rio Bravo Oil Co.'s Fee A-9, sec 31, H. & T. C. Ry. sur, 250 ft to W and 1250 ft to S line. T. G. Hunter's G. L. Woodard 1, Waggoner Colo sur, blk. 324, 1350 ft to N and 150 ft to E line. S. H. Walton Jr.'s Burnett Est 4, blk. 2, H. & T. B. Ry. sur, 300 ft N No. 2. Jackson & Kitzelman Oil Co.'s D. L. Eads 12, D. L. & C. Co. sur, No. 1, 300 ft SE No. 10. Paul George's R. S. Allen 1, blk. 23 H. & G. N. sur, 150 ft to N and W lines. Homer Lee's J. & J. Wilbener 6, B. B. B. & C. Ry. sur, 310 ft NE No. 4. Rahl & Bower's Munger Bros. 1, blk. 25, W. V. F. L., 538 ft to W and 150 ft to N line. J. A. Fisher's J. E. Roller Est 1, sec 3 C. T. Ry. sur, 150 ft to W and 450 ft to S line. Texhoma Oil & Ref. Co.'s S. B. Burnett et al 2-B, sec 5, S. A. & M. G. Ry. sur, 343 ft W No. 1. Panhandle Oil & Ref. Co.'s J. L. Jackson 2, blk. 23 D. C. S. L. lot 4, 150 ft to S and W lines. Barnhart & Easton's Burnett Est 10, H. T. & B. Ry. sur, blk. 2, 50 ft N No. 6. F. C. Bladwin et al's W. Kennedy 18, G. C. & S. F. Ry. sur, sec 6, 150 ft to N and E lines. Roberts & Hill's W. W. Overby 1, Balch 150 ft to S and W lines.

Webb County—Carnahan Prod. & Ref. Co.'s E. Garcia 57, 400 ft E No. 5; Garcia Ranch 58, 400 ft E No. 53. E. M. Alworth's E. Garcia 2, blk. 52, 1150 ft to W and 150 ft to N line. Carnahan Prod. & Ref. Co.'s Garcia 56, blk. 10, 450 ft to N and 150 ft to W line.

Wilbarger County—South Vernon Oil Co.'s W. H. Stevens 2, sec 83, H. & T. C. Ry. sur, 200 ft to S and W lines.

Young County—Mutual Oil Co.'s Costello Bros. 1, J. M. Johnson sur, 150 ft to S and E lines. Union Oil Co.'s B. M. Keathley 1, blk. 153 T. E. & L. Ry. sur, 933 ft to E and 150 ft to S line. Beter Oils Inc's S. B. Kemp 4, sur 401, 598 ft to E and 200 ft to S line.

ARKANSAS

Columbia County—Gulf Ref. Co.'s Buffington 1, 24-15-20, NWc NW¼ SE¼.

Nevada County—Dee et al's F. Johnson 1, 27-14-21, SE¼ NW¼.

Ouachita County—Gulf Ref. Co.'s Patton 2, 31-15-16, 200 ft N and E of center; W. F. Patton A-1, 31-15-16, 1120 ft E and 200 ft S of center; Werner 14, 37-15-16, 990 ft S and 200 ft E of center. Klotz & Thomas' Peace 2, 26-15-17, 200 ft S and E of NWc SE¼ NE¼. Lewis & Clark's Berry 6, 24-15-17, 200 ft N and E of SWc NW¼ SE¼. Smith Ref. Co.'s Patton 7, 31-15-16, center of east line of NW¼ NE¼. Snowden & McSweeney's Taylor 4, 29-15-16, 200 ft S and E of NWc SW¼ NE¼. Standard Oil Co.'s Bennett 2, 33-15-15, 330 ft S and 300 ft E of NWc SW¼ SE¼; Griffith 2, 33-15-15, 330 ft N and W of SEc NE¼ SW¼; Umstead 12, 33-15-15, 330 ft N and 200 ft W of SEc.

Union County—Crosby Trust's Burns 1, 17-16-15, 200 ft S and W of NEc NE¼ SW¼. Houston Oil Co.'s Ballard 2, 21-16-15, 200 ft S and E of NWc NW¼ SE¼. Keene & Wolf's Henshaw 1, 17-16-15, 200 ft S and E of NWc NE¼ SE¼; Henshaw 2, 200 ft N and E of SWc NE¼ SE¼. Smitherman & McDonald's Saxon A-4, 32-15-16, 200 ft N and W of SEc SE¼ SW¼.

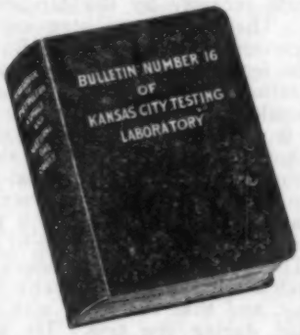
Books On Petroleum

The knowledge gained through years of work and study by some of the most capable men in the oil industry is set down in the books listed herein. Order some of these books and profit by the experience of others.

(The following is reprinted from our complete catalog of OIL BOOKS, which will be sent free on request. Watch this space from week to week for description of practically every book available on petroleum.)

Handbook of Petroleum, Asphalt and Natural Gas

By Roy Cross, Member A. C. S., A. S. T. M., A. A. A. Sc., A. S. M. I. Published as Bulletin No. 16 of Kansas City Testing Laboratory.



General Outline of Contents: Economics of Petroleum.—Uses, statistics, geographical distribution, geology, production, prices, depletion of wells, drilling methods. Transportation, Storage and gauging.—Pipe lines, storage losses, tank specifications, fire regulations, tank cars, loading, storage tanks, gauging, measurements. Properties of Crude Petroleum. — General and chemical constitution, distillation properties, physical properties. Special commercial petroleums. Refining of Petroleum, Including Cracking. — Refining practice. Refinery designs. Cost of refining. Chemical nature of cracking. Properties of gasoline and naphtha made by various processes of decomposition. Aluminum chloride process. Classification of cracking processes. Benton process. Dewar & Redwood process. Burton process. Cross process. Cracking and refinery engineering. Calculation of cracking yields and refinery profits. Properties of Refined Petroleum. — Gasoline. Benzol. Kerosene. Gas Oil. Distillate Oil. Straw Oil. Lubricating Oil. Grease. Paraffin wax. Transformer oils. Petroleum. Miscellaneous refined oils. Complete detailed specifications. State laws. Fuel Oil—Chemical and physical properties. Advantages over other fuels. Comparison with other fuels. Sampling. Relative costs. Specifications. Combustion. Oil Shale, Shale Oil and Coal Naphtha.—Occurrence, properties, distillation products, by-product coal distillation plants, gas manufacturing. Asphalt.—Refining oil for road building and paving purposes. Properties of asphaltic and bituminous materials. Various types of asphaltic pavements with their properties and specifications. Specifications for brick filler. Asphalt for water-proofing. Road oils. Natural Gas.—Occurrence of natural gas. Production. Prices. Composition. Manufacture. Gasoline by absorption method. Capacity of absorption towers. Manufacture of carbon black. Properties and production of Helium. Explosions of natural gas. Measuring the capacity of gas wells. Capacities of gas pipe lines. Methods of Analysis of Petroleum, Asphalt and Natural Gas.—Standardized and commercial methods. Tables.—Gravity correction tables, temperature correction tables. Mensuration conversion tables. Bibliography.—Publications and Patents. 625 pages 5½x8 in black flexible cover, round corners, loose leaf binding.

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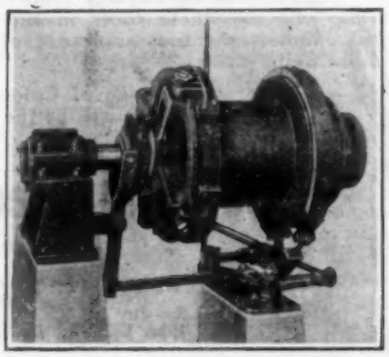

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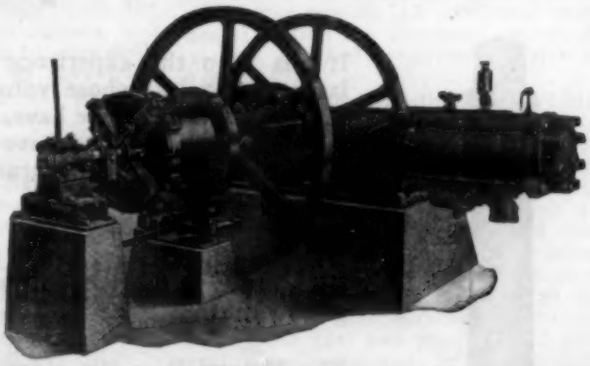

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LOUISIANA PERMITS

Bossier Parish—Louisiana Oil Ref. Corp.'s Fee D-13, 15-19N-11W, 495 ft south and 150 ft east of NW cor NE¼ of SE¼.

Caddo Parish—Tarver Oil Co.'s Huckaby 5, 14-21N-15W, 150 ft west and 150 ft north of SE cor SW¼ of SW¼.

Calcasieu Parish—Gulf Ref. Co. of La.'s Gardner-Noble-Gray 59, 33-10S-12W, 1520 ft north and 215 ft west of SE cor of Sec.

Claiborne Parish—The Ohio Oil Co.'s Traylor 1, 13-23N-8W, 2440 ft south and 2440 ft west of NE cor of section.

Ouachita Parish—Standard Carbon Co.'s Puckett 2, 22-19N-5E, 1650 ft north and 320 ft east of SW cor of SE¼.

Union Parish—Lyde & Mitchell Templeton 1, 18-23N-1E, 200 ft south and 300 ft west of NE cor SE¼ of SW¼.

Los Angeles May Probe Doheny Lease at Port

Los Angeles, Calif., Feb. 9. — The mayor of Los Angeles has asked the city council to investigate the lease of valuable water frontage at the harbor to the Pan American Petroleum Corporation, one of the E. L. Doheny concerns, on account of charges that have been made recently by the Municipal League. There is the contension in some quarters that the Harbor Board closed the lease without due process of law, or rather in the face of ordinance which would forbid such action.

There is a mixup in this matter, similar to the various charges being aired at Washington. It is charged that the chairman of the Harbor Board was a guest on the Doheny yacht on a trip to Honolulu prior to the closing of the lease. The chairman acknowledges he made such a trip, but said Doheny was not along, and that the lease was not mentioned during the trip. He also claims he discussed with the mayor the advisability of taking the trip and was advised that there was nothing wrong in it.

The lease consists of seven acres of land and is to run for thirty years and the pier has been improved since the date of the lease, which was announced in June last year.

Sharp Decline in Crude Shipments During Week

Los Angeles, Calif., Feb. 9. — Only 20 tankers departed from Los Angeles Harbor during the week ending Friday night against 33 the previous week. A total of 1,147,979 barrels of crude moved in addition to 260,479 barrels of fuel oil and 16,605 barrels of Deisel engine oil. The last named was intended for a foreign port.

Of the total crude moving, 774,914 barrels went to Atlantic Coast points. This represented nine cargoes, of which seven were for Standard of New Jersey at Bayonne.

The record for past two weeks follows:

	Last Week	Previous Week
Tankers departed	20	33
Total crude	1,147,979	2,041,534
Total fuel	260,479	112,723
Total gasoline	.....	195,531
Crude to Pacific	373,065	522,091
Fuel to Pacific	11,181	.....
Gasoline to Pacific	.....	23,813
Crude to Atlantic	774,914	1,519,443
Gasoline to Atlantic	.....	63,882
Fuel to foreign	249,296	112,723
Kerosene to foreign	.....	54,761
Gasoline to foreign	.....	107,836

WILDCATS FROM ALL SECTIONS

East Central Texas to Get Wildcat Play

Col. Humphreys preparing to give Prairieville structure good testing

Dallas, Texas, Feb. 12.—The Prairieville structure in the southeast part of Kaufman County has been selected by Col. A. E. Humphreys of Mexia fame for the location of the first of a number of tests to be drilled by his new operating concern, the Boyd Oil Company. The starting of this test is expected to be the forerunner of the heavy wildcat drilling campaign already proposed by many of the major companies and independent operators on their acreage in the Balcones fault region extending from the north end of the Corsicana-Powell field in a northeast direction across parts of Navarro, Henderson, Kaufman, Van Zandt, Hunt, Rains and Hopkins Counties. Territory held under lease for this wildcat campaign ranges from three to 15 miles in width, and approximately 80 miles long.

The initial test to be drilled by the Boyd Oil Company has been located in the northeast corner of the B. T. Rand 196-acre lease, J. R. Reierson survey, and about half a mile southwest of the small town of Prairieville, according to an announcement made last week by Col. Humphreys. The contract for the drilling of this test has been awarded to Abe Goodman of Shreveport, and rotary equipment for the drilling has already been shipped from the Tonkawa, Oklahoma, field. A heavy type of rig is to be used in order to expedite the completion of the test.

Geological information on the Prairieville structure outlines it as being one of the most favorable structures for oil production in the Balcones fault region now holding the center of interest in East Central Texas. Every available lease has been taken by the major companies and many independent operators. Lease prices on acreage on and around this structure have climbed to $150 per acre in recent weeks, while an almost equal amount has been paid the farmers for their royalty interests. The block of acreage held by the Boyd Oil Company on the Prairieville structure amounts to about 2300 acres, and was purchased sometime before prices on acreage in the east part of Kaufman County soared to high levels.

The location of other tests proposed by the Boyd Oil Company are expected to be announced in a few weeks, including one on the Bazette structure in Navarro County and northeast of the Corsicana-Powell field. The latter structure has also been passed on with favor by geologists of the major companies, and most all available acreage has been taken.

Surface casing was set late last week in the wildcat test being drilled by Judge Julius A. Germany and others of Dallas on the W. S. Kirby farm, S. Edens survey in northeast corner of Kaufman County. This test is located in the center of the Edens survey, and on the west bank of Duck Creek. The Germany interests are doing their own drilling, and G. H. Germany is in charge of the crew. Most of the major companies in the state have purchased protection leases around this test, but prices have not soared to the high levels paid for acreage in the southeast part of the county.

Roy Jenkins and W. L. Brookins, both of Dallas, have made location for a test to be drilled on a large block of acreage in the northwest corner of Van Zandt County, and extending into the lower part of Hunt County. This test will be drilled on the R. P. Hughes 269 acre farm, Eligio Alvarado survey about six and a half miles due north of Wills Point, and will be located about 660 feet north and east of the southwest corner of the Hughes farm. Most all the major companies have purchased leases on the vicinity of this proposed test, while Marland Oil Company's large block of leases in Van Zandt County is located to the east and south, centering around Wills Point. The Marland Oil Company has leases on approximately 35,000 acres under lease in the Balcones fault zone, including five separate blocks, with two unusually large blocks of acreage to the north and south of Wills Point in Van Zandt County. This company has assumed drilling obligations as part of the consideration on some of its holdings, and is expected to announce several locations shortly.

One or more tests are expected to be started shortly by the Humble Oil and Refining Company on a block of approximately 7200 acres centering on

Texas Panhandle to See Much Drilling This Year—Much Activity in Leasing

Amarillo, Texas, Feb. 11.—Leases on five one-quarter sections of land located in and around the oil producing area in the Carson County section of the Panhandle district were acquired last week by the American Refining Company of Wichita Falls from the S. B. Burnett estate, fee owners, and obligations were assumed to start drilling a deep test within 90 days from date of the trade. The deal involves a total of 800 acres, located on the north, east and south edges of the high gravity oil pool developed within the past three years on the Burnett ranch, and is reported to represent a consideration of $100,000. The first test to be drilled by the American Refining Company will be located near the east line of the southeast quarter, section 115, and will be virtually a west offset to The Texas Company's S. B. Burnett 1, section 114, which is considered the best oil producer in the Panhandle, having been completed since November, 1922, with an initial production estimated from 300 to 500 barrels daily from sand pay at 3012-20 feet. The Texas Company is erecting a 55,000 barrel tank to begin producing oil from this well and another completed pumper in section 92.

The American Refining Company is reported to be making preparations to use rotary equipment in drilling its first test on the Burnett ranch, while in the meantime a well known bit manufacturing company is working on a new type of rotary bit, especially adapted for penetrating the hard lime formations encountered in the Panhandle district oil field from 2000 to 2800 feet. The five quarter sections acquired by the American Refining Company from the Burnett estate last week are: southeast quarter of section 115, northeast quarter of section 113, southwest quarter of section 112, southeast quarter of section 108 and southwest quarter of section 92.

W. W. Silk and others of Wichita Falls and Amarillo's S. B. Burnett 3, which is making use of rotary equipment for the first time in several years in the Panhandle district, are reported fishing at 2000 feet after twisting off drill stem while drilling in hard lime at 2550 feet. This test was spudded late last November and has made good progress with the rotary, although severe weather has occurred frequently during the past two months, and several days were lost in fishing drill stem, which twisted off late in January while drilling at 2345 feet.

In the lower part of the Panhandle district, T. J. Woodley and associates have erected rig for a rotary test on the A. C. Dulaney ranch in Cottle County. This test will be drilled 200 feet north and 1320 feet west of the southeast corner of section 15, R. M. Thompson survey, block "M". In King County the Darmitza Oil and Gas Company has announced location for a deep cable tool test to be drilled on the J. H. Spikes lease, located about the center of section 132, J. B. Rector survey, block "A."

Cedar Creek and on the Henderson-Kaufman County line. Drilling obligations were assumed by Humble as part of the consideration in acquiring an undivided half interest in this block from the U. S. Texas Oil Corporation. Humble is to be in charge of the development of the leases, and is reported to have agreed to start drilling within six months after the trade was closed last fall. Geological data on this block of leases is reported to be most favorable for a producing structure, and all available close in acreage has been leased up.

Bernard H. Laskey, E. A. Freeben and others of Tulsa have made location for a test to be drilled on the R. B. Patterson farm, Henry Russel survey, in the west part of Hopkins County. A permit has been granted by the Railroad Commission at Austin to drill 175 feet each way from the northeast corner of the lease, and materials have been started moving in. It is about two miles north of Ridgeway, and will probably be carried to 3300 feet.

Central West Texas Wildcats

COMPLETION

Company, Well and Location			Initial Production bbls.	Depth
Callahan County—				
Chas. Dutton et al Mrs. L. Cathey	2	35	1763	

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DRILLING REPORT

BROWN COUNTY—Canyon Oil & Gas Co.'s B. W. McDonough 2, rig; McDonough 6, rigging up. Joe Cullinan et al's G. W. Pickett 1, sd 1135 ft. Carlton-Tippett et al's O. B. Fomby 1, sd 1315 ft. Infield Pet. Co.'s T. M. Windham 4, fsh junk after second shot 2425 ft; Windham 5, rigged up. Leonard et al's Prather 2, fsh tools 2370 ft. Maher Bros.' Bohara 1, sd 2155 ft. Omaha Southern Oil Co.'s G. B. Gaines 2, sd 1690 ft.

CALLAHAN COUNTY—Byron-Union Oil Co.'s Hennessey 1, sd 4045 ft. Burleson Oil Co.'s Isenhower 2, dr 150 ft. Chas. Dutton et al's Mrs. L. Cathey 3, lcn. Dudley Oil & Gas Co.'s Hugh Moore 1, sd 1750 ft. Hickey et al's E. L. Findley 2, dr 2440 ft; Mrs. Cathey 1, dr 350 ft. Junior Oil Co.'s Thorn 1, sd 2705 ft. Moore et al's Ackers 4, dr 2325 ft; H. P. Faulkner 2, rigged up. Schaffner et al's James 2, rigged. F. W. Stone & Slick's C. W. Barr 1, hfw, dr 2210 ft. Shackleford et al's Chas Allen 1, sd 1675 ft. Andy Urban's Clinton 1, dr 1070 ft.

HOOD COUNTY—Corsicana Oil & Ref. Co.'s I. A. Rylee 1, dr 1750 ft.

PALO PINTO COUNTY—Bankhead & Wheeler's Bankhead 1,sd 270 ft. Clark & Burch's Conklin 1, sd 3950 ft. Harris et al's Weldon 1, preparing to deepen, td 2650 ft. Haubert et al's Porter 1, sd 305 ft. E. Hess et al's Crocker 1, dr 2620 ft. Hughes, Craig & O'Neil's Jones 1, plugging to abn 4070 ft. Moore & Sneboldt's Pruitt 1, dr 2845 ft; Boles 2, rigging up. S. W. Manning et al's R. Hitson 1, sd 3[illegible] ft. Nelson Oil Co.'s Finch 2, running tubing 4[illegible]5 ft. Pender Prod. Co.'s L. C. Slemmons 1, testing on pump, td 4135 ft. Phillips & Graham's J. A. Caudill 1, sd for cas 3080 ft. Scott & McCluer's Riverbed 1, fsh tool 3712 ft. H. L. Singleton et al's W. Holt 1, sd 4070 ft. Skelly Oil Co.'s Carter 1, dr 550 ft. Texas Pacific Coal & Oil Co.'s M. E. Robinson 1-DD, running tubing with packer, td 3583 ft; J. H. Robinson 7, machine; J. N. Stewart 145, machine; Stewart 146, lcn. Upham Gas Co.'s J. H. Wharton 2, plugging to abn 3975 ft; Hartwell 1, rigged up; Watson 4, running 8-in cas 1800 ft. Youkan Oil & Gas Co.'s Seaman 1, sd 3965 ft.

BORDEN COUNTY—Kesselman Dev. Co.'s A. J. Long 1, rigged up.

BREWSTER COUNTY—Arco Dev. Co.'s H. L. Kokernot 1, dr 3765 ft. Brewster Oil Co.'s H. L. Kokernot 1, sd 2535 ft. Portland Oil Synd.'s State 1, dr 3040 ft. Nine Points Oil Co.'s Peralto & Finnell 1, sd 1570 ft. Marathon Oil Co.'s Nigger Creek 1, sd 2350 ft; Wilson 2, sd 4000 ft.

COKE COUNTY—Ace Oil Co.'s W. C. Locke 1, spd and sd. Adkins Oil Co.'s J. R. Smith 1, lcn. Mexia-Equitable Oil Co.'s W. J. Hodges 1, sd 2505 ft.

CONCHO COUNTY—Dome Prod. Co.'s Mrs. C. M. Hartgrove 1, spdg. Signal Oil Co.'s Sam Waring 1, co 3140 ft. W. O. Schultz Oil Co.'s W. O. Schultz 1, sd 3225 ft.

CROCKETT COUNTY—Crockett County Drilling Synd.'s J. M. Shannon 1, setting 8-inch casing 2140 ft; Shannon 2, lcn; Robert Massey 1, sd 535 ft. Enders-Smith & Co.'s University 1, sd 810 ft. W. E. Ball et al's J. S. Todd 1, lcn. Marathon Fold Drilling Club's L. P. Powell 1, dr 75 ft. Mid-Kansas & Transcontinental Oil Co.'s Harris Bros. 1, rigging up.

CULBERSON COUNTY—J. D. Wesner et al's Mack Sayles 1, sd 3105 ft.

DAWSON COUNTY—Lamesa Oil Co.'s John Burns 1, sd 2155 ft.

ECTOR COUNTY—Farmers Oil Co.'s Andy Newham 2, sd 1400 ft.

EL PASO COUNTY—Cinco Minas Co.'s Fee 1, dr 4670 ft.

FISHER COUNTY—Pyron Oil Co.'s J. S. McCall 1, sd 3125 ft.

GLASSCOCK COUNTY — Cushing Ranch Drilling Assn.'s W. H. Sparkman 1, sd 1950 ft. General Oil Co.'s L. S. McDowell 4, sd 3685 ft. Associated Ref. & Prod. Co.'s C. L. Brunson 1, sd 2935 ft.

HUDSPETH COUNTY—Boole Oil Assn.'s Gardner et al 1, sd 1540 ft. Hueco Basin Oil

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The manufacturers of this machine are men who have had experience in the oil fields, one of which has been in the business for 50 years, the other has made a study of pulling machines, and knows that the simplest, strongest and safest qualities is what the worker wants.

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We make no assertions that we cannot back up.

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Tell your supply company that you want the Safety or Eclipse and they can get it for you. We have them to sell.

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The Oil Well Supply Co., National Supply Co., Jarecki Mfg. Co., Republic Supply Co., Bovaird Supply Co. and Atlas Supply Co. have adopted our machines as the standard for the oil field, and if you will insist on our products the rest of them will get in line.

Our machines are described and listed as follows:

Safety Junior, A-Mast 34 ft. 4x10 Mast Double brake, Wells up to 800 ft.
Safety Standard, A-Mast, 36 ft., 6x10 Mast Double brake, Wells to 1800 ft.
Safety Special, A-Mast, 36 ft., 7x10 Mast Double brake, Wells to 3000 ft.

We also make the Eclipse, described as follows:

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Co.'s University 1, fsh 2560 ft. William Loftus et al's Minnie Veal 1, dr 590 ft.

HOWARD COUNTY—Big Springs Oil Co.'s Mable O. Quinn 1, sd 3640 ft.

JONES COUNTY—Anson Oil & Dev. Co.'s C. B. Brown 1, sd 1855 ft. C-H Oil Dev. Co.'s J. A. Cullom 1, sd 3150 ft.

LOVING COUNTY—Ramsey Prod. Co.'s Russell 1, fsh casing 4485 ft; Russell 2, sd 810 ft.

MITCHELL COUNTY—The California Co.'s W. H. Abrams 1, (T. & P.) 5, dr 515 ft; W. H. Butler 1, crooked hole 1380 ft; A. L. Miller 2, dr 2660 ft; Earl Morrison 1-A, dr 4190 ft; Morrison 2-A, dr 2030 ft; Morrison 6-B, cemented 8¼ casing 1350 ft; L. C. LeSure 2, dr 450 ft. J. F. Care et al's Earl Morrison 1, dr 1100 ft. Colorado-Texas Pet. Co.'s W. L. Foster 2, sd 2625 ft. S. A. Sloan Oil Co.'s Sam Smart 2, dr by tools with hole full oil, td 2995 ft.

PECOS COUNTY — Trans-Pecos Oil Co.'s Helen Y. Thomas 1, sd 440 ft; Bennette et al 1, showing oil and gas between 900 and 1000 ft, dr 1120 ft; Turney 1, sd 1630 ft; Johnson-Troy 1, sd 3520 ft. Southern States Lease & Prod. Co.'s J. M. Odem 1, sd 1305 ft. Oregon-Texas Oil Co.'s Turney 1, sd 3025 ft.

PRESIDIO COUNTY—Claude Byler's Toole Estate 1, sd 530 ft.

REAGAN COUNTY—Big Lake Oil Co.'s University 2, running tubes to pump, pay 3018 to 3040 ft, td 3054 ft; University 3, preparing to pump after shot in pay 3029 to 3040 ft, td 3042 ft; University 4, dr 650 ft; University 5, dr 400 ft; University 6, rigging up; University 7, timbers; University 8, 9 and 10, lcns. Benedum-Trees' Interests' University 1, (Sec. 2, Blk. 6), rigging up. W. H. Dunning et al's Sawyer Cattle Co. 1, lcn. Mid-Kansas-Transcontinental Oil Co.'s McIntosh Ranch 1, lcn.

REEVES COUNTY—Dixieland Oil Co.'s Oates 2, sd 4505 ft. W. S. Troy et al's H. G. Hersheusen 1, sd 415 ft. Belle Reeves Oil Co.'s Findley et al 1, sd 1540 ft. El Paso-Saragosa Oil Co.'s George Wirt 1, sd 540 ft. Parker-Hancock Oil Co.'s Johnson 1, sd 1930 ft. Willoughby Pet. Co.'s W. D. Cowan 1, sd 610 ft. Rodenbaugh & O'Connell's W. D. Casey 1, sd 845 ft. Pico Pet. Co.'s Johnson 1, sd 1930 ft. Texas Drilling & Dev. Co.'s Pecos Valley 1, sd 1105 ft.

RUNNELS COUNTY—Safety First Oil Co.'s Will Allen 1, plugging to abn 4000 ft. Russell Prod. Co.'s Russell 2, sd 2500 ft.

SCURRY COUNTY—Col. A. E. Humphreys et al's H. P. Welborn 1, dr 280 ft. The Loutex Corp.'s J. J. Moore 1, cementing 10-inch casing after shot, td 3576 ft. Camp Springs Oil & Gas Co.'s L. E. Howell 1, lcn; W. R. Quinn 1, dr 2530 ft; W. V. Jones 1, sd 605 ft. Hermleigh Oil & Gas Co.'s J. W. Burris 1, sd 3005 ft. Stanton Oil & Gas Co.'s J. W. Riley 1, sd 3505 ft. C. C. Brandon's J. A. Kemp 1, lcn. J. O. Guinn's L. Sturdevant 1, lcn.

STERLING COUNTY—Co-Operative Lease & Dev. Co.'s Douthitt 1, sd 1815 ft. Chicago Oil & Gas Co.'s B. C. Durham 1, sd 1500 ft. Fidelity Oil Co.'s C. R. Hull 1, sd 1215 ft. Concho River Drilling Assn.'s George McIntyre 1, sd 505 ft.

TAYLOR COUNTY — Abilene-Texas Oil Co.'s J. C. High 1, sd 2135 ft. Sanger Oil & Ref. Co.'s Hall 1, sd 3050 ft.

TERRELL COUNTY—Southwest Texas Oil & Gas Co.'s S. W. T. No. 1, sd 3515 ft. Pittsburgh-Western Oil Co.'s Chas. Downey 1, sd 1260 ft.

TOM GREEN COUNTY—Ranger Investment & Dev. Co.'s Harris 1, testing for water after setting casing, td 3115 ft.

VAL VERDE COUNTY—East Del Rio Oil Co.'s E. F. Russell 1, sd 2120 ft. G. Cook et al's Bedell Moore Estate 1, sd 1255 ft. Independent Operator's Whitehead 1, sd 1805 ft. Re-Clamation Oil Prod. Co.'s J. B. Moore 1, sd 2630 ft.

WARD COUNTY—Arthur Pitts Oil Co.'s Soda Lake 1, sd 2205 ft; River 1, sd 4675 ft. Cook & O'Brien's G. W. O'Brien 1, sd 1175 ft. Trans-Pecos Oil Co.'s Longnecker 1, sd 1765 ft.

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PUMPING EQUIPMENT

San Antonio District Wildcats

ATASCOSA COUNTY—DeLange-Eiser Co.'s No. 2 Tom, preparing to set 6-inch casing.

GUADALUPE COUNTY—United North & South Oil Co.'s Nos. 1 Shanklin, dr below 300 ft; 1 McKeon, dk; Allen 1, dr below 1500 ft. J. K. Hughes Oil Co.'s Harris 1, lcn. Magnolia Oil Co.'s A. H. Schubert 1, lcn; Imhoff 1, dr below 2100 ft. Sam Burman et al's Fred Imhoff 1, dr 850 ft. Trinity Drilling Co.'s Brinkdofer 1, lcn. Dixie Oil Co.'s 1, dk. McClallahan et al 1, dr 450 ft. West Prod. Co.'s Baier 1, reported excellent showing of oil and gas. Seguin Interests' Tierman 1, showing oil and gas; waiting on casing. Plateau Oil Co.'s Blanks 2, lcn. Rycade Oil Co.'s Maierhofer 1, lcn. "Jack" Johnson-Tindley Dauer 1, lcn.

JIM HOGG COUNTY—Miami-Balderas Oil Co.'s 1, dr. Richard et al 1, preparing to dr deep test. Revere Oil Co.'s Davenport 1, dr. Diamond S. Oil Co.'s Doering 1, dr below 3000 ft. Homer & Tyson's Tyson 1, recementing. Humble Oil Co.'s No. 1 Sur 41, dr. Fresno Oil Co.'s Hinnant 1, preparing to dr 1000 ft deeper. J. W. Pippin's 2, testing at 1135 ft.

LIVE OAK COUNTY—Grubstake Investment Assn.'s J. M. Nichols 3, dr; Jim Nichols 2, dr. Olchewske Oil Co.'s J. M. Brown 1, dr below 850 ft. Lobo Oil Co.'s Reagan 6, dr 1006 ft. Harkey Oil Co.'s Herring 1, dr below 750 ft. McCo's Ross Murra 3, lcn.

MAVERICK COUNTY—Southern States' Indio 1, dr.

MEDINA COUNTY—Wheless' Jose de la Roche 1, dr. B. J. K. Co.'s Adams 1, down below 1100 ft. California-Medina Assn.'s Rothe 1, dr below 2300 ft. McBride Drilling Co.'s Adams 1, Sur. 13, testing sand at 1500 ft. Ina Oil Co.'s Durst 2, Sur. 15, cleaning out at 1000 ft. William Oil Co.'s Jungman 1, Sur. 104, dr 280 ft, gas showing. Middle States Oil Co.'s 1, Sur, 799, lcn. O'Bryan et al's Nixon 1, Sur. 14½, dr 400 ft. Charles Jackson et al's Adams 1, Sur. 12, lcn. Jake Wolff et al's Louis Moefield 1, Sur. 532, dr below 900 ft. Young et al's Tom Brendle 1, dr. William Metzker's Ward 1, dk, waiting on machinery. Fuch's Jungman 1, Sur. 13, testing sand at 800 ft. Herman Haught's 1, Sur. 459, dr 600 ft. Dr. Brown et al's Adams 1, Sur. 12, testing sand at 1070 ft. L. N. Knight et al's Wiuff 1, Sur. 16, dk. M. G. Haskell's Fritz Faselor 1, dr 799 ft; L. G. Harrison, lcn.

McMULLEN COUNTY—Pioneer Prod. Co.'s Lowe 1, dr. San Balt Pet. Co.'s Stitz 3, waiting for cement to set; 4, dr 270 ft. Bower Leasing Co.'s Fisher 1, installing star rig. Pioneer Consolidated Pet. Co.'s Martin 1, dr 1681 ft. W. E. Everett's Stitz 1, waiting on cement to set at 976 ft. Arthur Inglis' Fisher 1, dk. South Texas Co.'s Cox 1 and 2, flowing; 3, dr 260 ft. Foley & Delaham's H. T. Calliham 1, setting casing. Grubstake Investment Assn.'s Lark 3, skidded dk to No. 5. George Smith's Fisher 1, skidding to No. 2. John Scarbauer's J. B. Fisher 1, blk. 13, setting casing. M. S. Holliday's Stitz 1, blk. 59, dr.

Texas Panhandle Wildcats

(NOTE—The drilling report below does not show wells that are shut down indefinitely.)

CARSON COUNTY—Culbertson Bros.' V. B. Armstrong 1, sd 175 ft. Gulf Prod. Co.'s S. B. Burnett 3, sd 3150 ft. W. W. Silk et al's S. B. Burnett 3, fsh 2550 ft. The Texas Co.'s Mary C. Burnett 1, sd 206 ft; Mary C. Burnett 2, rigging up; S. B. Burnett 3, dr 2250 ft. Tipton et al's McConnell 1, sd 3028 ft.

GRAY COUNTY—W. H. Holmes et al's J. S. Morse 1, sd 1390 ft. The Texas Co.'s G. H. Saunders 1, dr 2400 ft.

HEMPHILL COUNTY—Piney Oil Co.'s Hopkins 1, dr 3100 ft.

HUTCHINSON COUNTY—Coline Oil Co.'s M. Sandford 1, sd 3220 ft. Humphreys Oil Co.'s Johnson Bros. 1, fsh 2600 ft Montgomery Oil Co.'s Johnson Bros. 1, ur casing 1925 ft. Plains Oil Co.'s J. F. Weatherly 1, sd

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Shreveport, La. — Mexia, Texas
Dallas, Texas

STEEL

3260 ft. Producers & Refiners Co.'s L. Bivens 1-B, dr 2260 ft. Watchorn Oil Co.'s Cable 1, dr 110 ft. Wilson et al's Johnson Bros. 1, sd 300 ft.

MOORE COUNTY—Producers & Refiners Co.'s Masterson 1, rigging up.

POTTER COUNTY—Producers & Refiners Co.'s L. Bivens 1-A, plugged back to 2800 ft; Bivens 2-A, dr 2050 ft.

ROBERTS COUNTY—Roy Schenck et al's O. Laughlin 1, dr 300 ft.

WHEELER COUNTY—Mid-Continent Oil Synd.'s Ember 1, lcn. Roy Schenck et al's J. F. Bradley 1, dk blown down. Skelly Oil Co.'s Davis Bros. 1, dr 3780 ft. H. C. Tyrell et al's F. E. Sheldon 1, sd 1670 ft. J. Whittington's Williams & Laycock 1, reseating casing 1940 ft.

Northeast Texas Wildcats

COMPLETIONS

Company, Well, Location	Initial Production Bbls.	Depth
Bowie County—		
Tri-State Oil Co.'s Taylor 1.....	*	2900
Cass County—		
Hughes Springs Synd.'s Stoval 1...	*	2703
Panola County—		
Galloway et al's Eden 1.....	*	3142
O. L. Hickman's Stoddard 1.....	¶3	1993
Morris Trustee's Roberson 1.....	¶15	1930
Lewis Werner Sawmills 9.....	¶5	2020
Magnolia Pet. Co.'s Steele 6.....¶2½		1007
Sabine County—		
Deering et al's Harris 1.....	*	2600

Company, Well, Location	Initial Production Bbls.	Depth
Shelby County—		
We Win Oil Co.'s Ashberry 1.....	*	1937

DRILLING REPORT

BOWIE COUNTY—Fitzhugh et al's Rochelle 1, set and cement 6-inch casing at 2146 ft; Perkins 1, setting 6-inch at 2146 ft. New Boston Oil & Gas Co.'s Hooks 1, r to set 6-inch casing at 2000 ft.

CASS COUNTY—Mid-Continent Oil Lease Co.'s M. States 1, dr 2265 ft.

HARRISON COUNTY—Fuller & Scott's Furrh 1, dk.

MARION COUNTY—McCormick et al's McCay 1, dk. Wenzel et al's Stallcup 1, dr at 2710 ft in limerock.

PANOLA COUNTY—Industrial Gas Co.'s Cook 1, set 8-inch casing at 1100 ft. Magnolia Pet Co.'s Anderson 1, dr 2308 ft.

SHELBY COUNTY—We Win Oil Co.'s Ashberry 2, dr at 2400 ft.

Bureau Investigates Migration of Water

Washington, D. C.—Waters that are not confined to the strata in which they occur but are allowed to migrate back of the casing into oil and gas formations are a source of serious yet preventable underground loss in oil fields, state investigators of the Department of the Interior in Bulletin 232, recently issued by the Bureau of Mines. Top water, which may reach an oil sand in large volume, may prevent oil from entering a well and sometimes destroy other wells by migrating to them through oil or gas sands. Gas wells are easily flooded, possibly because the sands are dry and therefore offer less resistance to water than sands containing oil.

When a water sand is found between two productive strata, the water should be confined so that it can not migrate to those strata. If the water is under pressure, it may flood the top oil zone as readily as the bottom one. Often an upper oil stratum is productive in one well but is not in a neighboring well. Both strata should be protected from water, otherwise the upper oil sand in the producing well may be flooded by water from the other well and thus cause premature abandonment of the producing well. Failure to shut off water properly often affects a distant well. This was clearly demonstrated by repairs made on a certain well in the Cushing field, Oklahoma. The work resulted in shutting off water not only in the well repaired but in a well approximately 1300 feet distant. Before the original well was repaired, the daily production of the distant well was only 20 barrels of oil and a large amount of water; after the repairs the daily production of the distant well increased to 600 barrels of oil per day.

Although water travels slowly through sands, it has been known to migrate several miles through sands in Pennsylvania. Water from one well may migrate to other wells and damage a large part of an oil field. In fact, whole fields have been damaged in this way.

Los Angeles, Calif., Feb. 9 — The Union Oil Company has drilled deeper its No. 1 Bell at Santa Fe Springs, the well which produced the first commercial production in this field, and it is making 570 barrels after being drilled to 4670 feet.

"TEXAS SPECIAL" PORTABLE GASOLINE ROTARY RIG—2500 FOOT SIZE

15 H. P. Engine—4x6 Gardner pump bolted liners. Cone Clutch and COMPLETE Draw Works. All on wheels 10 inches wide. You can drill a well for $1.00 a foot. How's that for economy? Made in four sizes—1000 ft., 1400 ft., 1800 ft. and 2500 ft. Everybody is using them. Get yours NOW.

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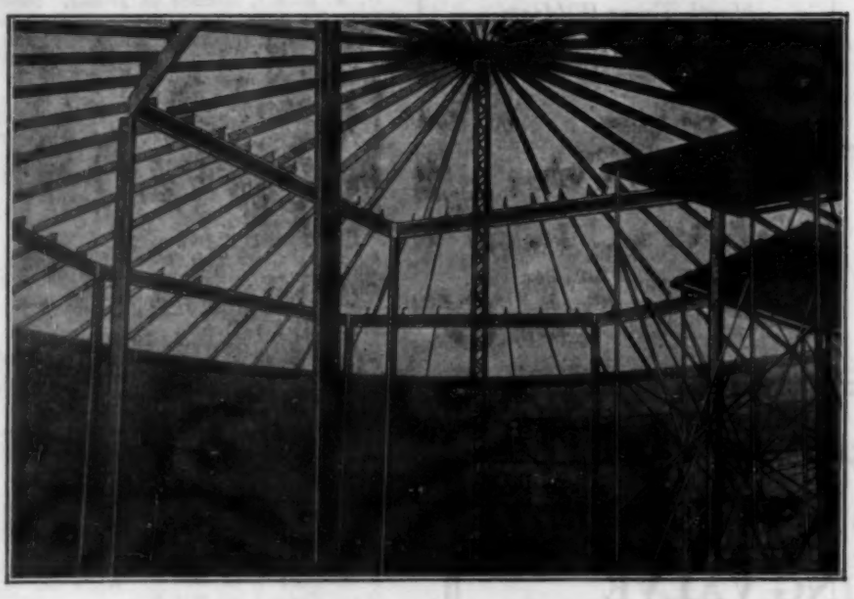

Interior View - -

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Through Shale and Snow in Zero Weather!

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It is not unusual for companies using Buckeyes to do a mile of pipe line a day. With a small crew a Buckeye can be kept going 24 hours a day. The work is done faster and at less cost.

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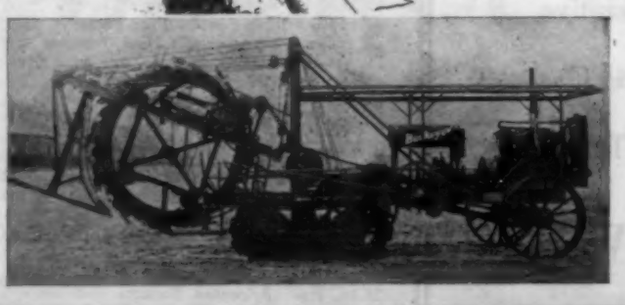

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Coastal Wildcats

DUVAL COUNTY—Mar-Tex Oil Co.'s Ridder 1, dr. Progress Oil Co.'s Tinney 1, dr below 250 ft. Union Sulphur Co.'s Tinney 1, dr.

HARRIS COUNTY — Texas Exploration Co.'s Warren 13, standing; Warren 15, pumping.

FORT BEND COUNTY—Pathfinder Oil Co.'s Davis Trustee 1, dr at 500 ft in gumbo.

JEFFERSON COUNTY—Rycade Oil Corp.'s McFadden 2, dr 4356 ft in rock.

MATAGORDA COUNTY—Rycade Oil Corporation's Gray 1, dr 437 ft in gumbo; Hudson 2, dr 3567 ft in hard sand.

North Texas Wildcats

COMPLETIONS

Company, Well, Location	Initial Production Bbls.	Depth
Clay County—		
E. C. D'Yarmett's Carpenter 1.....	*	2300
Lone Star Gas Co.'s N. H. Martin 1	*	1900
Withers subdiv 2	‡2	1775
Montague County—		
The Texas Co.'s C. W. Rucktashel 1	‡13	795

DRILLING REPORT

(Note—This report does not include tests that have been shut down indefinitely.)

BAYLOR COUNTY—Batchelder & King's Mrs. E. S. Wallace 1, lcn. B. Cranfill et al's W. B. Mills 1, machine on ground. Sunshine State Oil & Ref. Co.'s Mrs. E. S. Wallace 1, dk. Wurtz et al's Porter Ranch 1, sd 1010 ft.

CLAY COUNTY—Crude Oil Prod. Co.'s Kinder 1, sd 1060 ft. J. T. Cumley et al's J. D. Stine 1, dk. Gulf Prod. Co.'s H. Boddy 1, sidetracking cas at 2700 ft; C. M. Worsham 3, dr 2110 ft. Hamilton et al's J. Harper 1, sd 660 ft. Magnolia Pet. Co.'s Fee 10, dr 150 ft. Nebraska Oil & Gas Co.'s W. H. Myers 1, sd 3350 ft. Scaling Oil Corp.'s Geo. Scaling 1, ur 1500 ft. Seaboard Oil & Gas Co.'s L. Zihlman 1, dr 1050 ft.

COKE COUNTY—Big Indian Oil Co.'s B. W. Davis 1, dr 3050 ft. Red River Drilling Co.'s Whaley Jones 1, sd 1300 ft.

COLLIN COUNTY—Cyle et al's Walters 1, testing sand 1500 ft.

DENTON COUNTY—Hill Crest Oil & Dev. Co.'s J. H. Rayzor 1, sd 1350 ft.

GRAYSON COUNTY—Zee Tex Oil & Dev. Co.'s G. W. Cannon 2, dr 300 ft; Griffin 1, sd 2325 ft. W. R. Shankle et al's J. Marshall 1, dk.

HARDEMAN COUNTY—Frizell Oil Co.'s M. S. Winbury 1, sd 3075 ft.

HASKELL COUNTY—J. O. Galloway et al's F. S. Quade 1, sd 25 ft.

KING COUNTY—Banks Oil Co.'s J. R. Hailey 1, sd 1630 ft.

KNOX COUNTY—Brazos Bend Oil Co.'s J. E. Clark 1, sd 2000 ft. White Oil Corp.'s Ward Ranch 1, sd 2815 ft.

MONTAGUE COUNTY—Bowie Chief Oil Co.'s C. H. Boedeker 1, sd 2725 ft. Gulf Prod. Co.'s T. Benton 1, sd 3375 ft. Humphreys Oil Co.'s J. W. Maddox 3, sd 1950 ft. Mascho Oil Co.'s J. L. Howard 1, dr 2235 ft. Rycade Oil Co.'s R. D. Beasley 1, sd 3180 ft. Spencer & D'Yarmett's Wilson 1, dr 1180 ft. Texon Oil Co.'s L. Crenshaw 1-A, ur 2725 ft; L. Crenshaw 1-B, sd 1225 ft.

THROCKMORTON COUNTY—Ashcraft et al's Polk County School Land 1, sd 1050 ft. Graves & Burton's Reynolds Cattle Co. 1, rigging up.

WILBARGER COUNTY—Apple & Brandeberry's G. B. Ancel 1, dr 1275 ft. J. S. Dennis' W. G. Beckett 1, sd 660 ft. Ferguson & Watson's W. T. Waggoner 1, rigging up; Waggoner 2, dk. Herrington & Robinson's McCaleb 1, sd 2190 ft. Noble Oil Co.'s W. T. Waggoner 1, dr 1180 ft.

Louisiana Wildcats

BIENVILLE PARISH—Arkansas Fuel Co.'s Harrell 1, 6-18-5, dr 575 ft. Ohio Oil Co.'s Bodcau 1, 19-16-6, dry 2858 ft; coring 2861 ft. Smith et al's Durrett 1, 34-18-5, dk.

BOSSIER PARISH — Atlantic Oil Prod. Co.'s Bolinger 1, 29-23-11, lcn. Bolinger et al's Bolinger 1, 3-22-12, dr 1815 ft. Burch & Davis' Hughes 1, 22-15-12, dr 810 ft. Hoover et al's Freeman 1, 15-18-12, dk. Sneed et al's Jones 1, 23-18-11, sd 400 ft. Tarver Pet. Co.'s Bolinger 1, 15-22-14, sd 2657 ft. Zink & Kurbert's McGuffin 1, 4-18-11, sd 400 ft.

CADDO PARISH—Brewer & Sewell's Sharp 1, 15-18-16, dr 2565 ft. Caddo Western Gas Co.'s Gardner-Blades 1, 2-16-15, dr 2065 ft. Crude Oil Co.'s Alexander-Ledbetter 1, 27-16-14, dr 2310 ft. Louisiana Pet. Co.'s Brewer 1, 33-23-15, setting 6-in 2836 ft. Matson et al's Nickerson 1, 30-19-15, dk.

CALDWELL PARISH—Culver et al's Culver 1, 21-14-4e, rig.

CLAIBORNE PARISH — Triangle Drilling Co.'s Ranich 1, 17-22-5, sd 2650 ft.

DE SOTO PARISH—Tarver et al's Mathews 1, 32-12-11, dr 680 ft. Terrell et al's Porter 1, 22-12-13, setting 6-in 2670 ft; Porter 2, 15-12-13, dk tmbrs. Ulrey et al's Frost-Johnson 1, 3-11-15, set 8-in 1578 ft.

LA SALLE PARISH—Helm & Burch's Urania 1, 21-11-2e, rig. Urania Pet. Co.'s Urania 2, 20-10-2e, sd 2120 ft; Urania 3, sd 50 ft.

LINCOLN PARISH—Bickner et al's Colvin 1, 35-20-2w, dk. Four Creeks Oil Co.'s Colvin 1, 35-20-32, dr 1735 ft. Greene & Goff's Simmons 1, 25-18-1w, dk. Middlefork Synd.'s Kay 1, 8-20-3w, to deepen, 2362 ft.

RAPIDES PARISH—Acme Oil & Drill Co.'s test, 20-5n-1w, set 8-in 2933 ft.

UNION PARISH—Allen et al's Nale 1, 19-23-1e, lcn. Arkansas Natural Gas Co.'s Templeton 1, 19-23-1e, dr 2000 ft. Berry & Rob-

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erts' Smith 1, 16-22-1e, lcn. Cargile et al's Heard 1, 25-21-3w, moving in rig. Davidson & Palmer's Frost-Johnson 1, 18-23-1e, co with cable tools; Frost-Johnson A-1, 17-23-1e, rig; Green 1, 19-23-1e, sd 2603 ft. Dawson & Perritt's Hodges 1, 27-19-1e, dk tmbrs. Evans et al's Cole 1, 16-22-2e, dr 1500 ft. Feazel et al's Green 1, 19-23-1e, rig. Gulf Ref. Co.'s Green 1, 19-23-1e, dr 1050 ft; Security Trust 1, 23-23-1w, dr 700 ft. Lide et al's Templeton 1, 18-23-1e, rig. Neddo Pet. Investment Corp.'s Smith 1, 2-23-3w, to set 6-in 2180 ft. Noe et al's Gulley 1, 36-21-1e, set 6-in 2070 ft. Ohio Oil Co.'s Adkins 1, 30-23-1e, dk tmbrs; Dubach Lbr. Co. 1, 15-20-1w, dr 2335 ft. Roxana Pet. Co.'s Smith 1, 30-22-2w, coring 2050 ft. Tarver et al's Rhodes 1, 30-21-1w, dr 1150 ft. Union Parish Drilling Synd.'s Fee 3, 17-23-1e, sd 2287 ft.

WEBSTER PARISH—Cotton Valley Synd.'s Merritt 1, 14-21-10, dr 8-in plug 1154 ft. Fortuna Oil Co.'s Pruitt 1, 17-21-9, dr 1115 ft; Stratton 1, 31-22-10, set 6-in 2505 ft. Humble O. & R. Co.'s Merritt 1, 13-21-10, fsh for liner to resume dr 2558 ft. O'Brien et al's Dales 1, 26-21-9, dr 2160 ft. Oil Fields Gas Co.'s Hope A-1, 13-21-10, to drill in soon, 2396 ft; Hope B-1, B-2 and B-3, 13-21-10, lcns. Palmer & Blount's Anders 4, 6-18-10, sh 1034 ft. Palmer Corp.'s Miller 1, 29-21-10, to resume dr 3378 ft. Smitherman & McDonald's Boucher 1, 21-23-11, rig. Snyder et al's Hodges 2, 15-21-10, set 12½-in 253 ft. Stack & Egger's Bible 1, 8-20-9, dk. Standard Oil Co.'s Woodward & Walker 1, 16-17-8, dr 1780 ft. White Oil Corp.'s (Wadley) Gleason 1, 31-22-9, fsh 1200 ft.

Arkansas Wildcats

CALHOUN COUNTY—Harris & Bickley's Freeman-Smith 1, 26-16-13, sd 1152 ft. Vitex Oil Co.'s Adams 1, 29-12-12, dr 2260 ft.

CLARK COUNTY—American Drilling Co.'s Wilson 1, 15-8-22, sd 440 ft. United Pet. Co.'s Langford 1, 28-5-23, sd 2200 ft.

CLEVELAND COUNTY—Clark & Melat's Wilson 1, 12-8-12, dk. Rex O. & G. Co.'s Ward 1, 18-11-11, dr 1115 ft. Southern Arkansas Oil Co.'s Moore 1, 27-9-10, sd 2150 ft; Oeschner 1, 14-9-9, dk.

COLUMBIA COUNTY—Brown et al's Robinson 1, 23-18-23, sd 2844 ft. De Soto & Hickman's Fullenwilder 1, 3-16-21, sd 1070 ft. Dowdey et al's Fullenwilder 1, 12-17-22, set 6-in 2070 ft. Hosey et al's Haire 1, 30-19-18, sd 2156 ft. Miller et al's Watts 1, 20-16-18, sd 1990 ft.

DALLAS COUNTY—Conway et al's Riggs-Matlock 1, 33-8-15, sd 1805 ft. Langley et al's Coleman 1, 6-10-14, dk.

DREW COUNTY—Graves et al's Karnes 1, 10-13-6, set 8-in 1748 ft. Rhodes et al's Martin 1, 27-12-8, set 6-in 1514 ft.

GRANT COUNTY—Grant County O. & G. Co.'s Cargile 1, 26-5-12, sd 2160 ft. The Texas Co.'s Chicago L. & T. Co.'s 1, 14-6-13, dr 2010 ft.

HEMPSTEAD COUNTY—Dudley et al's Yates 1, 19-12-23, dr 1610 ft. Hope Columbus Oil Co.'s King 2, 24-11-25, dr 2120 ft. Johnson et al's State 1, 12-13-27, sd 730 ft. Martin et al's Adams 1, 36-12-27, to set 6-in 2118 ft, td 2207 ft. Meyer et al's Nicholls 1, 17-11-25, dr 1765 ft.

LA FAYETTE COUNTY—Ken-Saw Pet. Co.'s Red River 1, 34-19-24, sd 2823 ft. Lewisville Synd.'s Osborne 1, 16-15-24, sd 2528 ft. Wilburn et al's Hughes 1, 21-19-23, dr 340 ft.

LITTLE RIVER COUNTY—Gaines et al's Thomas 1, 15-13-29, ur 1890 ft. Johnson et al's Hawkins 1, 10-11-31, sd 960 ft. Red River Valley Oil Co.'s Taylor 1, 29-13-29, sd 2790 ft.

MILLER COUNTY—Cochran & Ray's Adams 1, 4-14-27, sd 2850 ft. Kress et al's Thompson 1, 33-14-28, to resume dr 500 ft.

NEVADA COUNTY—Arkrado Oil Co.'s McCain 1, 36-10-23 rig. Anderson & Edwards' Eaves 1, 11-12-23, sd 180 ft. Carter et al's Bailey 1, 31-13-21, sd 400 ft. Kan-Ark Pet. Co.'s White 1, 11-13-21, dr 1025 ft. Miller-Burnham-Hawley Synd.'s Perry 1, 12-15-22, fresh water, 558 ft. Prescott Oil Co.'s Henry 1, 10-12-20, sd 2500 ft. Wooten et al's Moore-Martin 1, 9-13-20, sd 1225 ft.

OUACHITA COUNTY—Amerada Pet. Co.'s Lester Mill Co. 1, 9-13-19, dr 800 ft. Eck &

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UNION COUNTY—Bondurant et al's Clark 1, 34-17-12, to set 4½-in 2655 ft; Turbeville 1, 9-18-12, sd 1610 ft. Garrett et al's Robinson 1, 33-18-14, dr 2340 ft. Harrell Trust's Steele 1, 11-19-12, sd 2435 ft. Hurst et al's Dumas 1, 9-17-16, rig. Ray et al's Long 1, 28-16-14, to test 2120 ft. Starke et al's Little 1, 21-19-12, to resume dr 2220 ft.

Oklahoma Wildcats

ALFALFA COUNTY—McGinnis & Ward's Watts 1, C NE SW SE 21-27-10w, dr 1460 ft. Armstrong, Henley & Piffiers' Turnbull 1, C NW SE NW 23-24-11w, sd 50 ft for fuel.

ATOKA COUNTY—McPhearson et al's Wild 1, SWc NW 7-2-9, dr 3500 ft. Hanson et al's Dabney 1, C SE NW 17-4-11, sd 100 ft. J. F. Torrence et al's Fee 1, SWc NE 1-2-9, sd 1350 ft. Wapanucka Dev. Co.'s Underwood 1, C W L SE SE 28-2-9, sd 1700 ft.

BECKHAM COUNTY—Bollion Oil Co.'s Green 1, S SW SW 34-10-24w, sd 1360 ft. Ship-Nash et al's 1, SEc NW 35-9-25w, sd 2415 ft. J. A. Pringle's Burkholder 1, C NE NE 6-9-24w, sd 3110 ft. Turman Oil Co.'s Jones 1, SWc NE 4-8-22, sd 2800 ft. Burlingame & Dovel's Dugger 1, SEc NW NW 35-10-23w, sd 525 ft.

BLAINE COUNTY—Okomo Oil Co.'s Edlemaier 1, SWc 21-15-10w, dr 625 ft. Thompson et al's Dickerman 1, C SE SE SE 26-15-12w, sd 3213 ft. Meyers et al's Chronister 1, SEc NW NE 7-18-16w, sd 965 ft.

BRYAN COUNTY—Lyon et al's Coombs 1, SEc SW NW NE 11-8-9, rig Berlien et al's Ramsey 1, NWc NE NE 32-7-8, sd 2475 ft.

CLEVELAND COUNTY—Garr Oil Co.'s Holland 1, NEc SE 31-10-4, r 2570 ft.

CUSTER COUNTY—Hoover Oil Co.'s 1, NWc SE 34-13-14, sd 2510 ft.

COAL COUNTY—Basie Oil Co.'s Heck 1, SEc 18-2-9, rig. Bearman et al's Payte 1, SWc NW NE 32-2-9, sd 2780 ft. Guy Vaughn's Downard 1, NWc SW 16-2-10, sd 2565 ft; Nichols 1, SW 1-1-11, rig. McPhearson et al's Jamison 1, NWc NE NE SW 24-1-8, sd 300 ft.

GRANT COUNTY—Ossenbeck et al's Hoffman 1, SEc 23-29-3, running 6-in 2720 ft. Embry et al's Edwards 1, C SE SE NW 20-26-4, rig. Alcorn Oil Co.'s Hubbard 1, C S L NW 12-26-2, swab 110 bbls, not comp. Day Oil Co.'s Vandatta 1, SWc NW 8-26-2w, sd 1270 ft.

GREER COUNTY—Western Nat. Gas Co.'s De Armond 1, NWc SW 23-7-23, sd 2015 ft hfw.

HARMON COUNTY—Keyes Pet. Co.'s 1, NWc SW 21-2-28, sd 2065 ft.

HUGHES COUNTY—Fiesher Pet. Co.'s Smith 1, NWc NE NW 8-9-12, dr 3530 ft. W. J. Thurber's Foster 1, SEc SW SE 5-7-8, dr 2530 ft. Kingwood Pet. Co.'s Burnett NWc NE SW 7-7-10, abn 5281 ft. Paraffin Oil Co.'s Love 1, NEc SE NE 13-7-12, dr 3385 ft. Middle States Oil Co.'s Arn 1, NWc 13-6-11, co 3585 ft.

JACKSON COUNTY—Douglas Oil Co.'s Jackson 1, NWc SW SE 20-3-20, sd 3440 ft. J. D. Wade's 1, C SW NW 36-2-23, fsh 2012 ft.

JEFFERSON COUNTY—Magnolia Pet.

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Co.'s Peck 1, C NW SW NW 4-3-6w, dr 3340 ft. Humble O. & R. Co.'s Lewis 1, NEc NE SE 16-6-7w, dr 2900 ft. Gant et al's Skelton 1, C NE NE NW 22-3-6w, dr 1936 ft. Shawver et al's Anderson 1, SEc NE 31-4-8w, sd 1050 ft. J. C. Cook Oil Co.'s Gibson 1, C NW NW NW 36-5-8w, sd 1460 ft.

KAY COUNTY—Comar Oil Co.'s Garrett 1, C NE NW SE 31-27-2, prep to pump 2241 ft. Ostot Dev. Co.'s Rohoe 2, C NW NW SE 3-27-1, r 2365 ft. Blackwell O. & G. Co.'s Kumbler 1, C NE SE 9-27-1, co 3142 ft. Alcorn Oil Co.'s Mills 1, C NW SE 24-26-1, dr 2510 ft; Hadley 1, NEc 6-26-2, rig. Amerada Pet. Co.'s Elledge 1, NEc SE 32-27-1, run 5-in 3835 ft. Guyles & Daniels Chism 1, SEc NW 32-29-2, sd 2060 ft. Mid-States Pet. Co.'s Cardin 1, SWc SE 8-28-2, sd 3517 ft.

KIOWA COUNTY—Connor et al's 2, NEc NW NW 34-7-16, dr 1408 ft.

LINCOLN COUNTY—Heintz et al's Horton 1, SWc NE 7-14-4, sd 3310 ft, 5,000,000 cu ft gas. Sun Ray Oil Co.'s Gallagher 1, C N L SE SE 18-13-5, sd 2332 ft. Flynn & Morgan's Baker 1, SEc 2-1-5, dr 850 ft. Magnolia Pet. Co.'s Wilson 1, SWc SE NW 18-1-5, dr 2165 ft. H. F. Wilcox O. & G. Co.'s Smulian 1, NWc SE NW 2-13-6, dr 1090 ft.

LOGAN COUNTY—Buford-Brim Oil Co.'s Newman 1, NWc NE 32-19-3w, collaspsed cas 2480 ft. Frank P. Kelly et al's McDaniels 1, NEc 28-13-5w, lcn. Okla. Drlg. Co.'s Johnson 1, SEc SW 36-15-2w, sd 1716 ft. Franklin Oil Assn.'s Moore 1, NWc SE SE 28-18-4w, dr 890 ft.

LOVE COUNTY—Wickenheiser et al's Beal 1, NEc SE NW 13-5-3, sd 2465 ft. Drillars Synd. Oil Co.'s Wilson 1, NWc NE 11-7-2, sd 2830 ft.

McCLAIN COUNTY—Day Oil Co.'s Ball 1, SEc NW NE NE 9-5-3, dr 2010 ft.

MARSHALL COUNTY—Magnolia Pet. Co.'s Everett 1, C NE NE SE 36-7-5, no report. Van Vleck et al's Chaffin 1, C SE NW NW 27-5-4. Lane & Watson's Sacra 1, C NW SE NE 10-5-5.

McCURTIN COUNTY—Fred Ptak's Wilson 1, NWc SE 15-8-25, sd 2700 ft.

OKLAHOMA COUNTY—W. R. Ramsey's Hendricks 1, SEc 8-12-1, sd 3655 ft. Firestone Oil Co.'s School 1, NWc SE 36-11-3, sd 3470 ft. Big Three Oil Co.'s Wild 1, SWc NE 31-12-12, rig down 1390 ft.

PAYNE COUNTY—Dan Bunnell's Overhole 1, NEc 9-18-3, dr 3055 ft.

PITTSBURGH COUNTY—Paraffin Oil Co.'s Pratt 1, NWc SE NE 13-7-12, set 10-in 1976 ft. Ed Richards' Townsend 1, C NE NE 29-6-13, sd 185 ft.

PONTOTOC COUNTY—Harper et al's Dener 1, NWc SE SE 19-5-7, dr 710 ft. Smith et al's Norris 1, SWc SE 34-4-6, r 2480 ft.

POTTAWATOMIE COUNTY—Ossie Oil Co.'s Howell 1, SWc NE 13-10-2, fsh 2595 ft. Magnolia Pet. Co.'s Bredenburg 1, C SE SW NW 18-7-5, sd 2900 ft. Dave Detrick's McGahey 1, SEc 10-6-2, dr 2890 ft. H. G. Guinnup et al's Floyd 1, SWc SE 13-11-3, dr 2240 ft. North American Oil Co.'s Madgett 1, NWc 25-10-4, rig. Maud Oil Products Co.'s Yinson 1, NEc NW 18-7-5, rig.

ROGER MILLS COUNTY—Kellogg Oil Co.'s Dr. Seba 1, C E L NE NE 10-16-21, sd 3021 ft. Twin Hills Oil Co.'s McClure 1, NW 15-15-26w, 2320 ft. Colorado Oil Co.'s 1, C NW NW NW 32-16-22w, dr 1520 ft. A. D. Morton's Elder 1, C SE 22-16-18, set 20-in cas 420 ft.

SEMINOLE COUNTY—Independent Oil Co.'s Ahasse 1, NEc SW 15-9-8, sd 3619 ft,

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hfw. W. E. Phillips et al's Davis 1, SEc NE NE 28-9-8, dr 3705 ft. Ossenbeck et al's Davis 1, C SW NE 10-8-7, fsh 3340 ft. Wm. McDougall's Belle Dindy 1, C SW SW 20-6-7, dr 1850 ft. Maxwell et al's Carty 1, C NE NW 36-6-6, sd 400 ft. Link Oil Co.'s Carolina 1, C SE NW 14-6-7, set 8-in 1820 ft.

TILLMAN COUNTY—Luffborough et al's Finley 1, SWc NE NW 23-2-17w, sd 3090 ft. Marshall Bros.' Riverbed 1, SWc NE NE 8-5-14w, cementing 6-in 1520 ft. A. V. Burton's Lawrence 1, NWc NE 28-3-14w, sd 1250 ft.

WASHITA COUNTY—R. B. Hartman's Montgomery 1, NEc SW SE 23-9-17w, sd 3060 ft. Santrock Bros.' 1, SWc NE 20-8-16w, dr 2860 ft. McCoy et al's Pratters 1, C SW SW NE 9-8-15w, dr 600 ft.

Kansas Wildcats

BARBER COUNTY—R. B. Brown's No. 1, NWc SW NW NW 33-30-14, dr 3150 ft.

BARTON COUNTY—Cheyenne Oil & Gas Co.'s Sooy 1, SWc SW 27-18-12, fsh 3525 ft. McMinn et al's Baker 1, SWc 5-18-13, sd 760 ft. Haynes et al's 1, SWc SW 31-18-12, dr 500 ft. H. W. Neiswanger's Everleigh 1, SW SE 1-18-12, lcn; Weiker 1, NWc SE NW 2-19-12, sd 700 ft. Mountain States O. & G. Co.'s SEc NE 22-18-13, dr 2650 ft. McMahan & Sampter 1, NWc 19-19-12, dr 500 ft.

COFFEE COUNTY—Sunbeam Pet. Co.'s Andrews 1, NWc NE 33-20-15, rig. Thad O'Day's Allen 1, NWc SE 13-21-15, sd 900 ft. Pryor & Lockhart's Butler 2, NWc SW SW 1-21-13, fsh 1770 ft.

FINNEY COUNTY—Garden City O. & G. Co.'s Wann 1, SEc SE 36-21-30, sd 2890 ft.

GEARY COUNTY—Liberty Texas Oil Co.'s Wright 1, NEc NE 4-12-6, sd 750 ft; Foster 1, NEc SW 30-16-6, sd 2000 ft.

JEFFERSON COUNTY—Northern Counties' Edwards 1, SEc NW NW 13-9-19, fsh 3400 ft.

KINGMAN COUNTY—Hale et al's Garner 1, SWc NW 34-27-1, sd 2543 ft.

OSBORN COUNTY—Liggett et al's Worley 1, NWc NW 34-10-15, rig. Delhi Oil Co.'s Forman 1, SWc SW 20-10-11w sd 3250 ft.

OSAGE COUNTY — Sharpless & Starke's Kirklen 1, SEc NW 36-17-14, lcn. Rodgers & Bittler's Bertha 1, SEc NW 28-17-15, lcn. Mul-Vit Dev. Co.'s Neil 1, NEc NW SW NE 8-17-17, sd 2735 ft. Rogers & Brown's No. 1, NEc SW 15-16-16, sd 1500 ft. Foster Oil Co.'s No. 1, NEc SW 8-16-17, sd 1470 ft. top lime. Mayer et al's Williams 1, NEc SW NW 12-18-14 rig.

POTTAWATOMIE COUNTY—Crawford et al's Stewart 1, C E L SE SE SE 17-9-12, rig; Greischabert 1, SWc SE SW SW 31-9-12, rig; St. Mary's 1, SWc 11-1-12, sr 2290 ft.

RENO COUNTY—Haynes et al's O'Halloran 1, NWc SE NW 28-25-8, sd 2610 ft. Travis et al's No. 1, NE SW 5-26-4w. sd 1800 ft.

RICE COUNTY—Hipple & Child's No. 1, SE NW 35-20-6w, r 3365 ft. H. T. Proctor's Taylor 1, NWc 15-21-10w. lcn.

RILEY COUNTY—Ritchie et al's Boyle 1, SEc 36-7-4, sd 2601 ft. Walton Oil Co.'s Thierer 1, NWc 20-10-12, sd 1600 ft. Pawnee Oil & Gas Co.'s Marks 1, SWc NE NW 26-10-6, sd 1700 ft.

RUSSELL COUNTY—Valerius Oil Co.'s Munsell 1, NWc NE 17-12-15w, rig; Phillips 1, SWc 3-13-13w, rig.

SEWARD COUNTY—C. T. Development Co.'s Wood 1, NWc SE 34-34-34, sd 700 ft. Seward O. & G. Co.'s Seeley 1, NEc NW 20-33-33, sd 2437 ft show oil. Traders O. & G. Co.'s Bunting 1, SWc NE SW SW 4-25-34w, rig burned sd 1600 ft.

SUMNER COUNTY—Jack Robinson's Barker 1, NWc 2-31-1, lcn. Collins & Frantz's Young 1, SEc NE 33-33-2, dr 340 ft. Collins, Claude & Nelson's Dillon 1, NEc 34-34-1, rig.

TREGO COUNTY—Morton et al's Kyser 1, C E½ 9-11-22, r 1406 ft. Keyes Pet. Co.'s Walsh 1, NWc SE 5-11-25, sd 1700 ft; Walsh 2, SWc NE SW 5-11-25, sd 1550 ft.

WASHINGTON COUNTY—Barnes O. & G. Co.'s Wickham 1, SEc SW 9-5-5, sd 1305 ft.

WOODSON COUNTY—Equity Oil Co.'s Solomon 1, SWc NE NW 30-26-17, sd 2960 ft. Haglett et al's Hines 1, C NE NE NE 30-25-16, fsh 1340 ft; Rash 1, NWc NE 5-25-16, sd 350 ft.

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Manufacturer and Supply Dealer Notes

Promotion Announced by the Bridgeport Machine Company

Wichita, Kans., Feb. 15.—The Bridgeport Machine Company of Wichita, Kansas, announces the appointment of I. C. Lawless as sales manager for the company.

Mr. Lawless is a native of Oklahoma, having been born at Medford. He joined the Bridgeport organization several years ago and has served in several responsible capacities, being

I. C. LAWLESS

promoted from credit manager to his new position. Although a comparatively young man, he has an intimate knowledge of oil field conditions and personnel of the fields. He will give his principal attention to the Bridgeport branches.

Although these branches located at important production points have established a splendid reputation for service, it is the Bridgeport Machine Company's desire to further increase their high standing and efficiency. Several changes are being made in the personnel of the branches, stocks increased and other steps taken in the interest of a high efficiency.

Several new branches are being located by the company at new points, the location of which will be announced soon.

GETS FOREIGN ORDER

Tulsa, Okla., Feb. 12.—The Palmer Specialty Company, manufacturers of improved Palmer control head with built-in steam snuffer, has just completed shipments of the control head to several foreign countries, including the Island of Sumatra and the Dutch East Indies.

Demand on Supply Companies Increasing in All Sections

Pittsburgh, Pa., Feb. 15.—Recent advances in crude oil and gasoline are being reflected in a more active demand for oil country supplies and equipment. This increased activity not only is confined to the East but to the Western oil country as well and reports from the West Coast are that California equipment manufacturers are feeling better times and are faced with the cheering prospect of more business.

Reflecting truly the pick-up in field operations throughout the country, a substantial gain is being reported in the demand for tubular goods in the Pittsburgh mill district as well as in the Chicago territory and in other sections of the East and Middle West. Orders are being placed calling for considerable tonnage and February business is expected to far exceed orders booked in January.

Both tank car and storage tank requirements are coming to the market surface now. Subsidiaries of Cities Service Company (Henry L. Doherty interests) are in the market for 345 tank cars of 8000 and 10,000 gallon capacity and the Cities Service Refining Company of Massachusetts is inquiring for 15,000 and 80,000 barrel storage tanks. Union Pacific has just placed orders with Standard Tank Car and American Car and Foundry Companies for 500 tanks cars.

Coupling Company Opens New Office in Tulsa

Pittsburgh, Pa., Feb. 4.—The Smithsteel Coupling Company with headquarters here have opened an office at 1010 Mid-Continent building in Tulsa, Oklahoma, to serve the Mid-Continent and Rocky Mountain regions. A. E. Butts is in charge of the Tulsa office.

The Smithsteel Coupling Company distributes and sells Smithsteel coupling for line pipe, drill pipe and casing. The A. O. Smith Corporation manufactures the product.

Bridgeport Company Reaches High Profit Mark for 1923

Wichita, Kans., Feb. 11.—Profits of the Bridgeport Machine Company in 1923 were approximately $250,000 as compared with $425,999 the previous year. The significant feature of the company's annual statement is that the concern was able to show a profit despite the unsatisfactory conditions existing in the oil industry throughout last year. Net profits of the company, which manufactures the well known Swan underreamer and also a complete line of drilling and fishing tools, for the four years 1919 to 1922, inclusive, averaged $310,419.

Capital assets of the Bridgeport Machine Company have grown from the original investment of $10,000 to $2,390,000.

Hughes Tool Company to Enlarge Houston Plant

Houston, Texas, Feb. 8.—Contract has been let by the Hughes Tool Company for construction of an all-steeel building which when equipped with machinery will cost about $75,000. The structure will be built at Harrisburg Boulevard and the Houston Belt and Terminal tracks. It will house a complete new steel foundry and will be the latest in design and workmanship. It will be 80 by 120 feet, and constructed throughout of aluminum finished steel.

This quality of steel was chosen by the Hughes Tool Company because it reflects light and lends an air of cheerfulness to the plant.

Work on the new foundry was started on February 5, and it is expected that the building will be completed by March 1. Machinery will be installed as soon as the building is completed. Each piece of machinery that is placed in the new quarters will be the best and most modern that money can buy. Among the features of machinery which will be installed will be a five ton electrically driven crane and an electric melting furnace.

Coast Methods Success In Mid-Continent Field

Graham, Okla., Feb. 12.—An unusual demonstration of Gulf Coast methods of finishing wells was made near here recently by the Atlantic Oil Producing Company.

Heretofore the usual method has been to drill the well into the sand with cable tools and then set a liner of regular perforated pipe without back pressure valve or packer and without washing the well. In this instance, the well was drilled in with rotary tools and then a liner made up of 17 joints of five and three-sixteenths inch Emsco screen, .040 inch gauge was set with a W-K-M combination set shoe back pressure valve and wash ring. A W-K-M patented liner packer was also used between the top of the liner and the casing.

The well was washed thoroughly for about 12 hours, by which time the returns were coming practically clear. Wash pipe was then pulled and after bailing only a few times the well came in and flowed over 500 barrels of pipe line oil during the first eight hours.

Graver Appoints Manager For Eastern Division

East Chicago, Ind., Feb. 8.—Graver Corporation, East Chicago, manufacturers of tanks, water softeners, filters and general steel plate construction work, has appointed L. H. Welling as manager of their eastern office. Mr. Welling who has been handling Graver products for several years, will have his headquarters at the New York office, 5045 Grand Central Terminal Building.

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ROTARY OR CABLE

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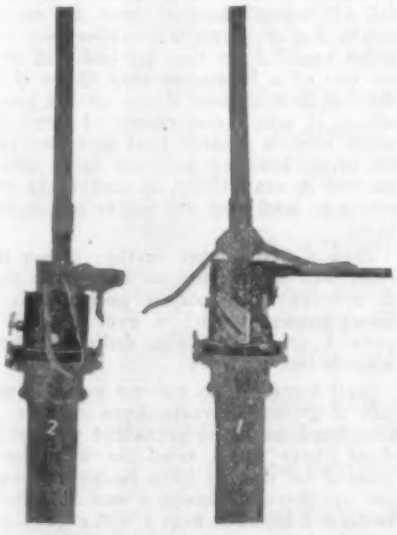
NEW EQUIPMENT, CATALOGS, BULLETINS, BOOKS

Raising Tubing Prevented By New Elevator Support

An entirely new application of an elevator support and release for use on oil wells has just been perfected by Owen A. Thompson of Independence, secretary-treasurer of the Safety Pulling Machine Company. The Safety Pulling Machine Company, of which Thomas G. Laney is president, is also manufacturers of the safety pulling machine now in general use throughout the oil country.

This new elevator support and release, which is fully protected by patents, does away with the necessity of raising tubing in the operation of running into a well. It has always been the custom to raise the tubing off the elevator, so that the elevator can be released and thereby allow the joint last added to be lowered into the well. The elevator is placed on top of the casing head and secured by two set screws, always a part of the casing head, by running the screws through the lugs provided for this purpose.

When the one inch gas pipe handle on the elevator is put in place and



pulled to the left, it places the casing in the position shown in Drawing No. 1. The elevator rests on top. The operator picks up the new joint, starts the threads, turns the reel until the slack is taken from the line and then applies the brake. When the threads are thoroughly screwed tight, the operator takes hold of the brake, grasps the pipe handle, pushes it to the right until the three supports disengage, allowing the uper half to glide downward accompanied by the casing.

The operator in releasing the elevator, removes it and grasps the handle pulling back to the left until it stops. The tubing is lowered until the upper elevator rests on the machine. This process is continued until all the tubing is in the hole.

New Steel Derrick Adapted To Service on Deep Wells

Extreme depth of the wells drilled in California has forced the oil field supply houses to make provisions for almost anything that might happen—and the derrick is most important. Steel derricks are not unusual, but one made in California by a California corporation with many new features has just been perfected and placed on the market.

The derrick is known as the Emsco steel derrick and is manufactured and sold by the Emsco Steel Products Company, 7101 South Alameda Street, Los Angeles, and is galvanized to prevent deterioration. Standard dimensions prevail throughout.

Each derrick is complete with engine house, pump houses, and all necessary attachments constructed entirely of steel with not less than two bolts to the joint. The 24 by 24 foot derrick base is made of 12 inch and 15 inch channel steel. The water table measures five feet and six inches and is supported on 20 inch I-beams braced with 12 inch channel steel. The lower section of the derrick legs are eight by eight inch angles, while the upper section has six by six inch angle dimensions.

Additional strength is given the legs by cross angle bracing with three and four inch angles attached with gussett plates every seven feet from top to floor—leaving no section unbraced.

Even the derrick ladder is unusually strong, being built with channel iron sides and pipe rings. It is so fastened as to always allow ample toe clearance and is of the staggered type with ladder cages every 14 feet.

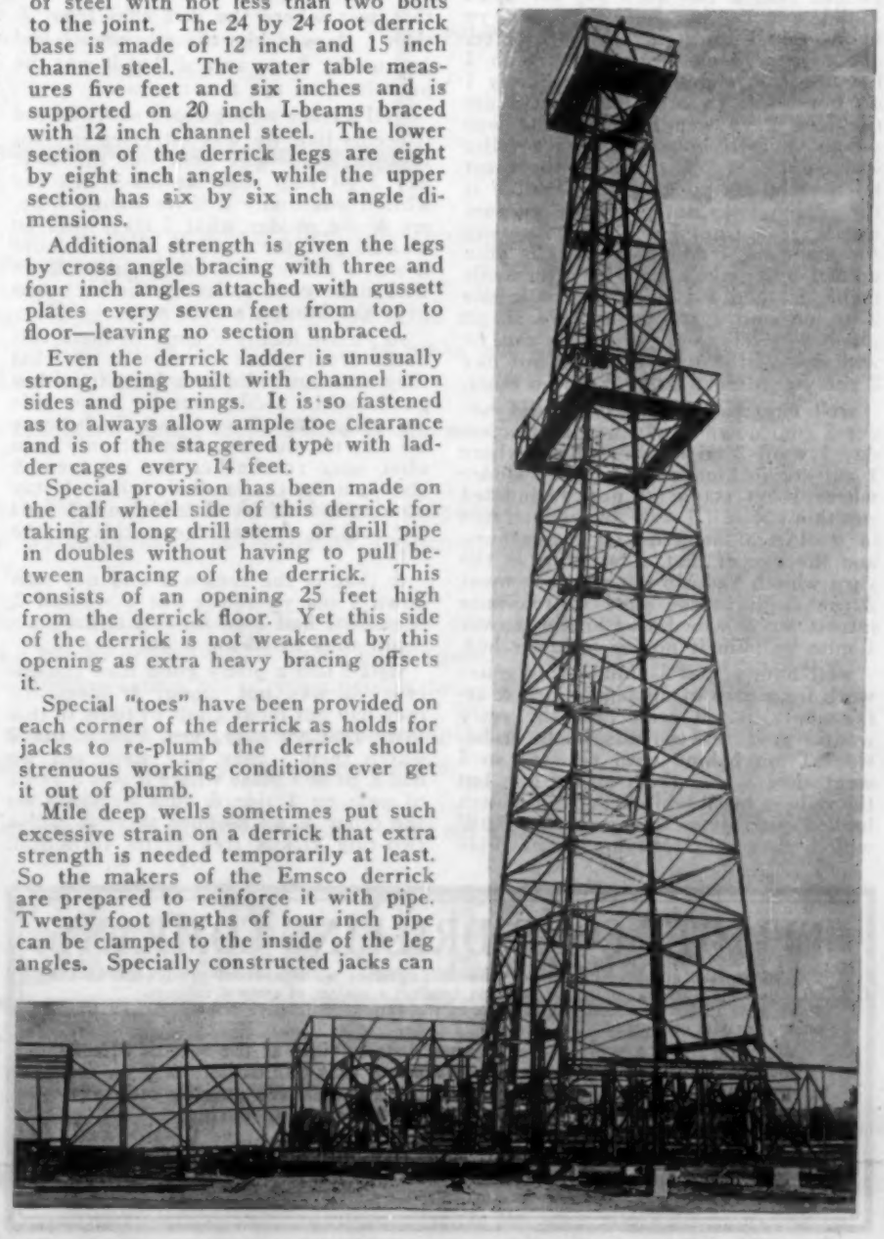
Special provision has been made on the calf wheel side of this derrick for taking in long drill stems or drill pipe in doubles without having to pull between bracing of the derrick. This consists of an opening 25 feet high from the derrick floor. Yet this side of the derrick is not weakened by this opening as extra heavy bracing offsets it.

Special "toes" have been provided on each corner of the derrick as holds for jacks to re-plumb the derrick should strenuous working conditions ever get it out of plumb.

Mile deep wells sometimes put such excessive strain on a derrick that extra strength is needed temporarily at least. So the makers of the Emsco derrick are prepared to reinforce it with pipe. Twenty foot lengths of four inch pipe can be clamped to the inside of the leg angles. Specially constructed jacks can be placed under the ends of this pipe to give assurance that each reinforcing column will carry its share of the load. An advantage of the reinforced material is that it can be quickly installed or removed.

Annoying vibration so frequently encountered in steel construction is eliminated by a special method of maintaining tension on the various pieces. All steel wheels of new design and extra heavy type are supplied with this derrick.

On both the bull and calf wheels the brake bands are lagged with asbestos brake lining to enable them to run against the steel wheel. The same thing is true of lagging on the patented sand reel suction wheel which runs against the band wheel. This eliminates constant replacing of lagging on the band wheel. No wood is used in Emsco wheels.



LETTERS OF Paul Peebles P.S.G.

dear cleopatry

well cleo hunny I wood hav cum down to sea yu yesterday whitch was sundy except I had 2 go sumwheres elst & cud not do it. also I wood hav ritten 2 yu moar sooner only I hav bin 2 bussy 2 rite 2 yu or ennybody elst & I mite hav called yu on the lond distants only I did not hav no spare change handy 2 put in2 sutch a unimportant thing as that & I hate 2 call yu like that & hav yu 2 pay for it, so I did not do it. but I promis yu hunny that I am goin 2 be more better about rittin 2 yu more reglar than I hav for sum times back, but hunny I do not think yu ort 2 say that I am not trew 2 yu wen I do not rite wen yu no yourself how it is wen a feller is busy like I. I am 1 of the most bussiest fellers yu ever seen whitch is the reesen I do not git 2 rite yu sum weeks. I am not gettin mutch munny for the work I do now, but it is pilin up & I will make a hole lot after awile mabe, & then I can sit pretty & rite 2 yu or cum 2 see yu wenever I git good & reddy, only then yu can be with me all the time & I will not hav 2 rite yu no moar or go 2 see yu ether.

well ennyway the reesen I did not get 2 cum down sundy was that saterday I went 2 mi bordin house where I am stayin kinder erly & the widder where I am stayin at now insinuated sumthin about if I was always intrested in geological structurs & formashuns and the like of that, it was dirt in the yard whitch had bin out of a basement 2 use 2 fill in the yard whitch mite intrest me & wile I was lookin it over I mite be pilin it up for a flower bed.

well hunny that is kinder indignant work for a man of mi asperations & attainments, but I seen that she reely wantid sum flower beds made & besides I am behine with mi rent so I went ahed & dug them up for her, but the onliest fossil whitch I found whitch looked intresting was a broke bottil whitch I was classifyin in mi mine while I was restin on the shuvvel handel wen who was 2 cum bi but that old frend of mine whitch I hav often tole you about what has the mormon automobile whitch he rid me so fast in that time wen I was up 2 north texas on a trip with him.

well he cum along & kidded me sum about what was I doin diggin a oil well in a residents yard, & I told him I was looking for a outcrop whitch I figgered ort 2 be about there & was goin 2 calclate the locashun of a new feeld between mahayer & nackdoshes, & I was havin pritty good luck as sum of the clods I had terned over looked a hole lot like the dirt under the humble buildin, whitch was a fack, because that was where the dirt cum from & then I showed him the spesimen I had just undug & we agreed that it was the prevolstedian era & verry rare.

well 2 make a long story short he sed it seems like we was intrested in sum flowers & he was goin out the next day 2 git sum rose bushes in his car whitch was sundy & if we wantid 2 go, me & the widder what I stay with, he wud be glad for us to go along because it was a pritty ruff rode in spots & we wud make good ballast in the back seet over the bumps, so we went.

so yu see hunny if enny of them ruff necks from goose creek tells yu that they seen me ridin in a big car with a good lookin widder out for a joy ride on sundy, yu will no it is a lie, because we was not out joy ridin but only goin after sum rosebushes for mi fren & also sum for the landlady where I stay at & whitch mi frend & his wife & kids all nose & it was there kids in the car.

& that is the reesen I cud not cum down 2 sea yu sundy like I wanted 2, because I had 2 go on this trip on account they asted me 2 go.

well I had a pritty good time considerin yu was not along, & bleev me they hav got moar kinds of fools in this town that yu ever seen & it is fun 2 watch them. they way went out we had 2 go bi a plase where it was a game of polo on 1 side & sum airplanes on the other & we stopped there & had a two-ring cirkus free gratis fornothin. I gess yu bein a woman yu do not no nuthin about the fine points of polo & avyashun & will be intrested for me 2 tell yu sumthin about it.

well hunny polo aint nuthin but a cross between shinney & krokay & horseback ridin, they take a krokay mallet & put a bilyard cue in it for a handel so as 2 make it long enuff 2 reetch the ground frum a horses back & the game is 2 choose up side & lope around a ten acre pastur nockin the ball 2 the other fellers end. the ball is a krokay ball & I gess pretty hard 2 hit, but sumtimes they do hit it & sum times they miss. we watched them a long time playin but it did not nobody fall off & git run over, so it was not verry mutch fun 2 watch.

on the uther side of the rode was sum airplanes & a garrage & fillin station for airplanes. it shore does take a lot of room for a airplane 2 park. I said what do they call that & a fellor tole me it was a landin feeld & then I seen a big sine on the top of the garradge what red "land here" & I kept watchin 2 sea if 1 wud land on top of it & mabe fall off, whitch nun of them did on account I gess even a avyator has got sents enuff 2 no that he cud not stop on top of a house or stay there if he did, so they all cum down on the prary where it was moar room. I gess the feller whitch painted that sine aint verry brite, because yu cant land where he sed & stay there, & ennybody cud see it is land and not water all around their.

then a little moar further along the road wen we started we seen sum men & women both playin golluf. this is the playenst town yu ever seen & I gess I am about the onliest I hear whitch has to work.

well hunny I do not no yet if I will hav 2 go up 2 washington or not. I aint herd from the president yet. if he dont hurry up & send me werd he is goin 2 be out of luck because I cant go up there unlessen I can git threw in time 2 be back hear for the geeology meetin in march. as I hav tole yu before, all the leedin lites on the perfession is goin 2 be hear for that meetin & I shorely will hav 2 be in huston at that time, I cant be foolin around up in washington tryin 2 see what makes the teepot boil over then.

& dont forget that yu will hav 2 cum 2 huston 2 be with me at the banket of the convenshun. go ahead & get yore close reddy so yu can cum ahed & the rite time & nock them dead with yore good looks & fine close. & wen yu git that dress without no top that I tole yu yu will hav 2 hav, make shure that it fits good and wont cum down without no suspenders because that would be embarrisin at the critical minute.

well hunn I will sea yu soon if I can possibly git away from mi business & the widder at the same time.

yore lovin paul.

ELLIOTT CORE DRILLING COMPANY

The widespread and growing use of core drilling since we introduced the process in the oil industry makes our policy of business conduct a matter of general interest.
From time to time we shall publish one of the various distinctive principles upon which our business is conducted.

We guarantee a well owner against loss of time at the rate of $10.00 per hour. In other words, we guarantee that our drillers will be on the job within an hour of the appointed time. We employ only experienced drillers who devote all their attention to coring.

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WOOD, AND BOLTED STEEL TANKS

Indisputable Evidence No. 10

Electra Texas
July 7 1923.

Black Sivalls & Bryson
Bartlesville, Okla.

Gentlemen:-

Replying to your inquirery regarding the preformance of the Gun Barrell and the two 100 barrell Prefection Vapor Proof tanks purchased from you recently will say that they are giving entire satisfaction and that I can cheerfully recomend them.

I had a production of twenty five barrells a day using open top flow and storage tanks geting a gravity of 38, since the Prefection tanks were instaled I have gained 117 barrells in twenty four days, geting 41.6 gravity on oil when run.

Very Respectfuly

F. W. Keeser

Lease Manager The Johny Tolbert Oil Co.
Midlothian Texas

"They Are Giving Entire Satisfaction and I can Cheerfully Recommend Them"

WELL might the lease manager cheerfully recommend Perfection Vapor Pressure Tanks!

Saving five barrels of oil a day from evaporation as well as raising the gravity more than three degrees, ought to make any oil man feel kindly toward such a battery of lease tanks.

The moral in the letter reproduced above is almost too obvious for us to repeat.

What Perfection Tanks can save for other oil companies, whose testimonial letters we have been faithfully reproducing, they can save for you.

Right now the petroleum business is admittedly coming out of the doldrums. As a producer you will soon be busy again. But start the new era right—don't waste a bit of your production.

Get in touch with one of our representatives who will explain how Pefection Tanks will be one of your biggest assets.

Such Equipment Is an Investment—Not an Expense

Black Sivalls & Bryson
·INC·
BARTLESVILLE ~ OKLAHOMA

Branch offices in all principal active fields

SQUEAKS from the BULL WHEEL

The Poet and the Editor

"Why my dear sir, right now my poetry is being read by twice as many people as ever before."

"So! You went and got married, did you?"—Norwegian Exchange.

A Liberal Gob

The doctor was examining Bosworth, a hospital corpsman, for advancement in rating. "What would you do if the captain fainted on the bridge?"

"Bring him to," warbled the aspiring corpsman.

"Then what?" asked the doctor.

"Bring him two more," returned the gob.

Whose Sleep?

Doctor—Do you talk in your sleep?

Patient—No; I talk in other people's. I'm a clergyman.

Mr. (after quarrel over the usual thing)—"Of course, you wouldn't care to come to the theater in that gown you've been complaining about?"

Mrs.—"Oh, you dear! So you've bought me a new one?"

Mr.—"No, I just bought one ticket for myself."

Clever Beasts

Husband (reading from newspaper)—"Three thousand four hundred and twenty-six elephants were needed last year to make billiard balls."

Wife—"Isn't it wonderful that such great beasts can be taught to do such delicate work?"

A rich man in his years of toil
Burned barrels and barrels of midnight oil;
His son now keeps his memory green,
By burning midnight gasoline.
—Humble Bee.

Do you really think, doctor, kissing will shorten my life?

Yes, if you get caught kissing another fellow's girl.

How is it, Bridget, I saw you treating your young man to my cake and pie last night?

Bekase Oi thought ye was aslape, mum.

One scientist announces that soon we can eat sunshine.

What of it? For a long time we've been drinking moonshine.

Don't Mention Oil in Washington

—By Fields in Houston Post.

Providence

A Scotsman bought his mother a barometer as a present, and explained how she could tell if it was going to be wet or fine by inspecting the position of the hands.

"Ay," said his mother, "it's a fine thing; but ye ken ye've been wasting your money. What do you think Providence gave your father the rheumatics for?"

Delicatessen Repartee

Short sighted lady: Is that the head cheese over there?

Salesman: No, mam; that's one of his assistants.

A New Lead

Auctioneer (trying to arouse enthusiasm): Gentlemen! Gentlemen! What offer have I for this horse? (a bony horse is exhibited). Will some one start the bidding?"

Voice from the rear: Two dollars.

Auctioneer (protesting bitterly): Gentlemen! Gentlemen! the horse is alive.

Corporal Purposes

Customer: Have you any garden hose?

Hardware Clerk: Yes, sir. How many feet do you wish?

Customer: Two will do. My boy has hidden the strap I formerly used on him.

Carried Out

Dealer: Here, what are you doing with those teaspoons in your pocket?

Customer: Doctor's orders.

What do you mean—doctor's orders?

He told me to take two teaspoons after every meal.

Unsettled

Anxious old lady (on river steamer): I say, my good man, is this boat going up or down?

Surly Deckhand: Well, she's a leaky old tub, ma'am, so I shouldn't wonder if she was going down. Then, again, her b'ilers ain't none too good, so she might go up.

The Best Policy

A man was giving a lecture to a club on the subject of "Honesty."

He related that when a boy he saw a cart laden with melons outside a shop and nobody about.

On the spur of the moment he stole a melon and darted into a passage.

"I soon got my teeth into that melon," he said, "but instantly a queer sensation assailed me and a shiver went thru me. My resolve was taken at once. I went back to that cart and I replaced the melon—(loud applause)—and I took a ripe one!"—Doherty News.

Difficult Customer: "I can't remember the name of the car I want—I think it starts with 'T'."

Exasperated Salesman: "Madam, all our cars start with gasoline."

Hey, Mommer, where's the tablecloth gone?

Sh! It's gone with Popper to a meeting.—Lampoon.

Foxboro Orifice Meter

A rugged, accurate Orifice Meter for measuring Casinghead Gas, Natural Gas, Air, Oil, Steam, Gasoline and Water. Write for Bulletin N-113-1.

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DRILLING VALVES

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To Hold Any Pressure in the Earth

To Fit Any Casing in the Hole

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District Sales Offices:
NEW YORK, HOUSTON, ATLANTA, BOSTON, NEW ORLEANS
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Ocean Terminals

Beverly, Mass.
Gibson's Point, Pa.
Port Tampa, Fla.
Port Arthur, Texas

Bayonne, N. J.
Savannah, Ga.
Gretna, La.
Magazine Point (Mobile), Ala.

Providence, R. I.
Jacksonville, Fla.
Galveston, Texas

GUIDE FOR PURCHASERS

Air Compressors—
Southern Engine & Pump Co.

Air Lift Pumping Equipment—
Sullivan Machinery Co.

Attorneys—
Hirsch & Hannay
Vinson, Elkins & Wood

Balls and Seats—
Bradford Motor Co.
The Chas. N. Hough Mfg. Co.

Band Wheels—
Lee C. Moore & Co., Inc.

Banks—
Exchange Banks of Tulsa
Commercial National Bank

Belting—
Bridgeport Machinery Co.
Continental Supply Co.
D. F. Connolly Agency
Frick-Reid Supply Co.
Oil Well Supply Co.
Republic Supply Co.

Boilers—
Bridgeport Machine Co.
The Brownell Co.
D. F. Connolly Agency
Continental Supply Co.
Frick-Reid Supply Co.
International Supply Co.
The National Supply Cos.
Oil Well Supply Co.
Republic Supply Company
Regan Forge & Engineering Co.
Titusville Iron Works Co.
United Iron Works, Inc.
See Oil Field Supplies and Tanks

Blowout Preventer—
Cameron Iron Works
Regan Forge & Engineering Co.

Burners—
Gaso Pump & Burner Mfg. Co.
Regan Forge & Engineering Co.

Bull Wheels—
International Derrick & Equipment Co.
Lee C. Moore & Co., Inc.
Tulsa Rig Reel & Mfg. Co.

Calf Wheels—
Lee C. Moore & Co., Inc.

Casing—
David L. Schofield
Oil Field Salvage Co.
Regan Forge & Engineering Co.
Republic Supply Company
Superior Tube Co.

Casing Shoes—
Baker Casing Shoe Co.
Bridgeport Machine Co.
Continental Supply Co.
Gulf Coast Machine & Supply Co.
The National Supply Cos.
Pelican Well Tool & Supply Co.
Regan Forge & Engineering Co.
Republic Supply Company
W-K-M Co.

Cement Hardener—
The Sullivan Co.
W-K-M Co.

Compressors—
Butler Mfg. Co.
F. W. Heitmann Co.
Hope Engineering Co.
Sullivan Machinery Co.
United Iron Works, Inc.

Core Drills—
Elliott Core Drilling Co.

Cordage—
D. F. Connolly Agency
Continental Supply Co.
The National Supply Cos.
Republic Supply Company

Crown Blocks—
American Well & Pros. Co.
Boykin Machinery & Sup. Co.
Gulf Coast Machine & Supply Co.
International Derrick & Equipment Co.
Lufkin Foundry & Machine Co.
Oil City Iron Works, Inc.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Superior Tube Co.

Couplings—
Harrisburg Pipe & Pipe Bending Co.
Superior Tube Co.

Dehydrating Processes—
W. S. Barnickel & Co.
Petroleum Rectifying Co.

Derricks and Rigs—
International Derrick & Equipment Co.
Lee C. Moore & Co.
National Turnbuckle Derrick Co.
Parkersburg Rig & Reel Co.
Peden Iron & Steel Co.

Derricks and Rigs—(Cont.)
Tulsa Rig Reel & Mfg. Co.
Superior Tube Co.

Diamond Core Drills—
Sullivan Machinery Co.

Disc Bits—
Rotary Disc Bit Co.

Ditchers—
Buckeye Traction Ditcher Co.

Draw Works—
American Well & Pros. Co.
Lufkin Foundry & Machine Co.

Drilling Cables—
Bridgeport Machine Co.
D. F. Connolly Agency
Continental Supply Co.
Frick-Reid Supply Co.
F. W. Heitmann Co.
The National Supply Cos.
Peden Iron & Steel Co.
Regan Forge & Engineering Co.
Republic Supply Company
Williamsport Wire Rope Distributing Co.

Drilling Machines—
Bridgeport Machine Co.
Keystone Driller Co.
Parkersburg Rig & Reel Co.

Drill Pipe—
Continental Supply Co.
Frick-Reid Supply Co.
Republic Supply Company
Reading Iron Co.
Standard Seamless Tube Co.
Superior Tube Co.

Drilling Equipment—
American Well & Pros. Co.
Bridgeport Machine Co.
Continental Supply Co.
Republic Supply Company

Drive Pipe—
Republic Supply Company
Reading Iron Co.
Superior Tube Co.

Electrical Equipment—
Southwest Gen. Elec. Co.
Westinghouse Elec. & Mfg. Co.

Elevators—
B. & C. Machine & Fndy. Co.
Bridgeport Machine Co.
Dunn Mfg. Co.
Gulf Coast Machine & Supply Co.
Wilson & Willard Mfg. Co.

Engines, Diesel—
Western Machinery Co.

Engines, Gas—
The Braden Co.
Frick-Reid Supply Co.
Western Machinery Co.

Engines, Oil—
Continental Supply Co.
Frick-Reid Supply Co.
Western Machinery Co.

Engines, Pumping—
Ajax Iron Works
American Well & Pros. Co.
Bessemer Gas Engine Co.
Bridgeport Machine Co.
The Brownell Co.
De La Vergne Machine Co.
Franklin Valveless Engine Co.
Frick-Reid Supply Co.
Hope Engineering Co.
Lucey Mfg. Corp.
Lufkin Foundry & Machine Co.
The National Supply Cos.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Peden Iron & Steel Co.
Republic Supply Company
Rock Island Plow Co.
Southern Engine & Pump Co.
Titusville Iron Works

Engineers—
A. C. Bierman
C. N. Black
Samuel J. Caudill
David Donoghue
Foster & Reiter
F. W. Freeborn Eng. Co.
E. F. Kuehnle
Geo. C. Matson
Lee C. Moore & Co.
Oil Conservation Engineering Co.
L. H. Owen
D. T. Ring
F. N. Williams

Fire Protection—
Foamite-Childs Corporation
Oil Conservation Engineering Co.

Fish Tail Bits—
American Well & Pros. Co.
Frick-Reid Supply Co.
Gulf Coast Machine & Sup. Co.
Pelican Well Tool & Sup. Co.
Regan Forge & Engineering Co.
W-K-M Co.

Floor Circle Brace—
Dunn Mfg. Co.

Fuel Oil—
Gulf Ref. Co.
Sinclair Ref. Co.

Gas Traps—
Trumble Gas Trap Co.

Gasoline Extraction Compressors—
Bessemer Gas Engine Co.
Sullivan Machinery Co.

Gasoline and Oil Storage Tanks—
Butler Mfg. Co.
Graver Corporation
Kansas City Struct. Steel Co.
Parkersburg Rig & Reel Co.

Gauges—
The Foxboro Co., Inc.
Oil Conservation Engineering Co.

Gauge Boards—
The Foxboro Co., Inc.

Genuine Wrought Iron Casing—
Reading Iron Co.
Superior Tube Co.

Geologists—
A. C. Bierman
Samuel J. Caudill
Alexander Deussen
David Donoghue
Edwin B. Hopkins
Foster & Reiter
Geo. C. Matson
Herald Bros.

Grips and Clamps—
J. P. Ratigan
W-K-M Co.

Heat Exchangers—
Brown Welding & Machine Co.

Hose—
D. F. Connolly Agency

Houses—
Crain Ready-Cut House Co.

Laboratory Equipment—
Fort Worth Laboratories

Lease Equipment—
The Braden Co.

Lighting Systems—
Bridgeport Machine Co.
Westinghouse Elec. & Mfg. Co.

Line Pipe—
Continental Supply Co.
Republic Supply Company
Reading Iron Co.
Superior Tube Co.

Manufacturers—
Robinson Packer Co.

Maps—
Standard Blue Print, Map & Engineering Co.

Meters—
The Foxboro Co., Inc.

Motors—
Southwest Gen. Elec. Co.
Westinghouse Electric & Mfg. Co.

Oil Field Supplies—
American Well & Pros. Co.
B. & C. Machine & Fndy. Co.
The Braden Co.
Bridgeport Machine Co.
Butler Mfg. Co.
D. F. Connolly Agency
Continental Supply Co.
Frick-Reid Supply Co.
Graver Corporation
Gulf Coast Mach. & Sup. Co.
International Supply Co.
Kansas City Struct. Steel Co.
Lee C. Moore & Co.
The National Supply Cos.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Peden Iron & Steel Co.
Pelican Well Tool & Sup. Co.
Republic Supply Company
Regan Forge & Engineering Co.
Robinson Packer Co.
H. M. Spence
Superior Tube Co.
Tulsa Rig Reel & Mfg. Co.
United Iron Works, Inc.
W-K-M Co.

Oilwell Casing—
Frick-Reid Supply Co.
Republic Supply Company
Superior Tube Co.
Texas Pipe & Supply Co.

Packers—
The Guiberson Corp.
Layne & Bowler
Robinson Packer Co
Pelican Well Tool & Supply Co.

Packers—(Cont.)
Regan Forge & Engineering Co.
W-K-M Co.
Exner-Dodge Packer Co.

Packing—
D. F. Connolly Agency
Frick-Reid Supply Co.
The National Supply Cos.
Peden Iron & Steel Co.
Pelican Well Tool & Sup. Co.
Republic Supply Company

Paints—
Peden Iron & Steel Co.

Panel Boards—
Westinghouse Electric & Mfg. Co.

Patents—
Hardway & Cathey
Jesse R. Stone

Pipe Grips—
W-K-M Co.

Pipe—
A. M. Byers Co.
Continental Supply Co.
W. E. Detlor
Frick-Reid Supply Co.
F. W. Heitmann Co.
Harrisburg Pipe & Pipe Bending Co.
International Supply Co.
The National Supply Cos.
Oil Well Supply Co.
Peden Iron & Steel Co.
Reading Iron Co.
Republic Supply Company
David L. Schofield
Superior Tube Co.
Standard Seamless Tube Co.
Williamsport Wire Rope Co.

Pipe Screwing Machines—
Buckeye Traction Ditcher Co.

Pipe Wrenches—
Continental Supply Co.
Dunn Mfg. Co.
The Guiberson Corp.
Republic Supply Company

Portable Buildings—
Butler Mfg. Co.
International Derrick & Equipment Co.

Portable Compressors—
Sullivan Machinery Co.

Portable Drillings Rigs—
Bridgeport Machinery Co.
Lee C. Moore & Co.
Oil Well Service Co.
Parkersburg Rig & Reel Co.
The National Supply Cos.

Pulleys—
International Derrick & Equipment Co.
Lee C. Moore & Co.

Pulling Machines—
Clark Machine Co.
Myrick Machine Co.
Safety Pulling Machine Co.

Pumps—
Axelson Machine Co.
American Well & Pros. Co.
Continental Supply Co.
D. & B. Pump & Sup. Co.
Frick-Reid Supply Co.
Gaso Pump & Burner Mfg. Co.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Pelican Well Tool & Supply Co.
Republic Supply Company
Southern Engine & Pump Co.
Texas Oil Pump Co.
United Iron Works, Inc.

Pumping Powers—
Bradford Motor Co.
The Braden Co.
Frick-Reid Supply Co.
Kansas City Hay Press Co.
H. M. Spence
Jensen Bros. Mfg. Co.

Refined Products—
Gulf Refining Company
Humble Oil & Refining Co.
Sinclair Refining Co.
Sunshine State Oil & Ref. Co.

Recorders—
Fort Worth Laboratories
The Foxboro Co., Inc.

Refinery Equipment—
Butler Mfg. Co.
Continental Supply Co.
Gardner Governor Co.
Graver Corporation
Kansas City Struct. Steel Co.
Oil Conservation Engineering Co.
Republic Supply Company
Titusville Iron Works
United Iron Works, Inc.
Wyatt Metal & Boiler Works

GUIDE FOR PURCHASERS—Continued

Rig Irons—
International Supply Co.
Lee C. Moore & Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Republic Supply Company

Rotary Rock Bits—
Hughes Tool Co.

Rotary Fish Tail Bits—
Continental Supply Co.
Pelican Well Tool & Supply Co.
Regan Forge & Engineering Co.
Republic Supply Company
W-K-M Co.

Rubber Fillers—
National Rubber Filler Co.

Sectional Steel Buildings—
The Braden Co.

Separators—
Butler Mfg. Co.
Trumble Gas Trap Co.

Strainers—
Layne & Bowler Co.
Pelican Well Tool & Supply Co.

Structural Steel—
Butler Mfg. Co.
Kansas City Struct. Steel Co.
Pennsylvania Tank Car Co.
United Iron Works, Inc.

Steel Derricks—
International Derrick & Equipment Co.
Lee C. Moore & Co., Inc.
Superior Tube Co.

Steel Crown Blocks—
Gulf Coast Mach. & Supply Co.
Lee C. Moore & Co.
Parkersburg Rig & Reel Co.
Superior Tube Co.

Steel Manufacturers—
Colonial Steel Co.

Steel Storage Tanks—
Butler Mfg. Co.
Graver Corporation

Strainers—
J. H. McEvoy & Co.
W-K-M Co.

Sucker Rod Lines—
D. F. Connolly Agency
Continental Supply Co.

Sucker Rods—
Axelson Machine Co.
D. & B. Pump & Sup. Co.
Dunn Mfg. Co.
Frick-Reid Supply Co.
S. M. Jones Co.
The National Supply Cos.
Oil Well Supply Co.
J. P. Ratigan
Republic Supply Company

Sucker Rod Sockets—
Bradford Motor Co.
Brown Welding & Machine Co.

Swabs—
B & C Machine & Foundry Co.

Tank Cars—
Pennsylvania Tank Car Co.

Tanks—
Butler Mfg. Co.
Black, Sivalls & Bryson
The Brownell Co.
Gantz Tank Co.
Graver Corporation
Kansas City Struct. Steel Co.
Maloney Tank Co.
Columbia Steel Tank Co.
Parkersburg Rig & Reel Co.
Petroleum Iron Works
United Iron Works Co.
Wyatt Metal & Boiler Works

Tank Equipment—
Oil Conservation Engineering Co.

Tret-O-Lite—
W. S. Barnickel & Co.

Thermometers—
Fort Worth Laboratories
The Foxboro Co., Inc.

Tongs—
Bridgeport Machine Co.
Dunn Mfg. Co.
Guiberson Corp.
Pelican Well Tool & Supply Co.
Wilson & Willard Mfg. Co.
W-K-M Co.

Tool Joints—
American Well & Pros. Co.
Boykin Machinery & Sup. Co.
Bridgeport Machine Co.
Continental Supply Co.
Hughes Tool Co.

Tool Joints—(Cont.)
Pelican Well Tool & Sup. Co.
Republic Supply Co.
W-K-M Co.

Tools (Fishing and Drilling)—
Bridgeport Machine Co.
Brown Welding & Machine Co.
Frick-Reid Supply Co.
Hughes Tool Co.
International Supply Co.
Oil Well Supply Co.
Peden Iron & Steel Co.
Pelican Well Tool & Supply Co.
Republic Supply Company
Sullivan Machinery Co.
W-K-M Co.

Tractor Winch—
Rock Island Plow Co.
Tulsa Rig Reel & Mfg. Co.

Traveling Blocks—
American Well & Pros. Co.
Boykin Machinery & Sup. Co.
Gulf Coast Machine & Supply Co.
Lufkin Foundry & Machine Co.

Tubing Catcher—
Dunn Mfg. Co.
Guiberson Corp.

Tubing Lines—
D. F. Connolly Agency

Tubing—
Republic Supply Company
Reading Iron Co.
Standard Seamless Tube Co.
Superior Tube Co.

Underreamers—
American Well & Pros. Co.
Bridgeport Machine Co.
Wilson & Willard Mfg. Co.

Vacuum Pumps—
Sullivan Machinery Co.

Valves—
Bradford Motor Co.
Darling Valve & Mfg. Co.
The Charles N. Hough Mfg. Co.
Texas Oil Pump Co.
Ludlow Valve Mfg. Co.
Oil Conservation Engineering Co.
Pratt & Cady
Reading Steel Casting Co.

Valves—(Cont.)
Reading Valve & Fittings Co.
Westcott Valve Mfg. Co.
W-K-M Co.

Valves and Fittings—
Continental Supply Co.
Darling Valve & Mfg. Co.
D & B Pump & Sup. Co.
F. W. Heitmann Co.
Ludlow Valve Mfg. Co.
Lufkin Foundry & Machine Co.
The National Supply Cos.
Peden Iron & Steel Co.
Pratt & Cady
Republic Supply Company
Reading Steel Casting Co.
Reading Valve & Fittings Co.
United Iron Works
W-K-M Co.

Walking Beams—
International Derrick & Equipment Co.
Lee C. Moore & Co., Inc.

Welding and Cutting Equipment—
Imperial Brass Mfg. Co.

Working Barrels—
Axelson Machine Co.
Bradford Motor Co.
Continental Supply Co.
D & B Pump & Sup. Co.
Republic Supply Company
The Charles N. Hough Mfg. Co.
Texas Oil Pump Co.
McGregor Working Barrel Co.

Water Gauges—
F. W. Heitmann Co.

Water Cans—
H. P. Gott Mfg. Co.

Wire Rope—
Bridgeport Machine Co.
D. F. Connolly Agency
Continental Supply Co.
Houston Oil Field Material Co.
International Supply Co.
Republic Supply Company
The National Supply Cos.
Williamsport Wire Rope Distributing Co.

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THE GREATEST FEATURE EVER BUILT INTO A PUMPING ENGINE.

Rock Island Pumping Unit P U 51—25 H. P.

Is Equipped With Friction Transmission—*BECAUSE*

It eliminates clutch and reverse gears.

Cannot jerk load—reduces danger of parting rods or breaking cable.

Permits wide range of speed—7 forward—7 reverse.

Simplifies construction—fewer parts—fewer repairs—more easily handled.

Sturdy 4 cylinder motor operates on natural gas or gasoline.

Complete control from well platform.

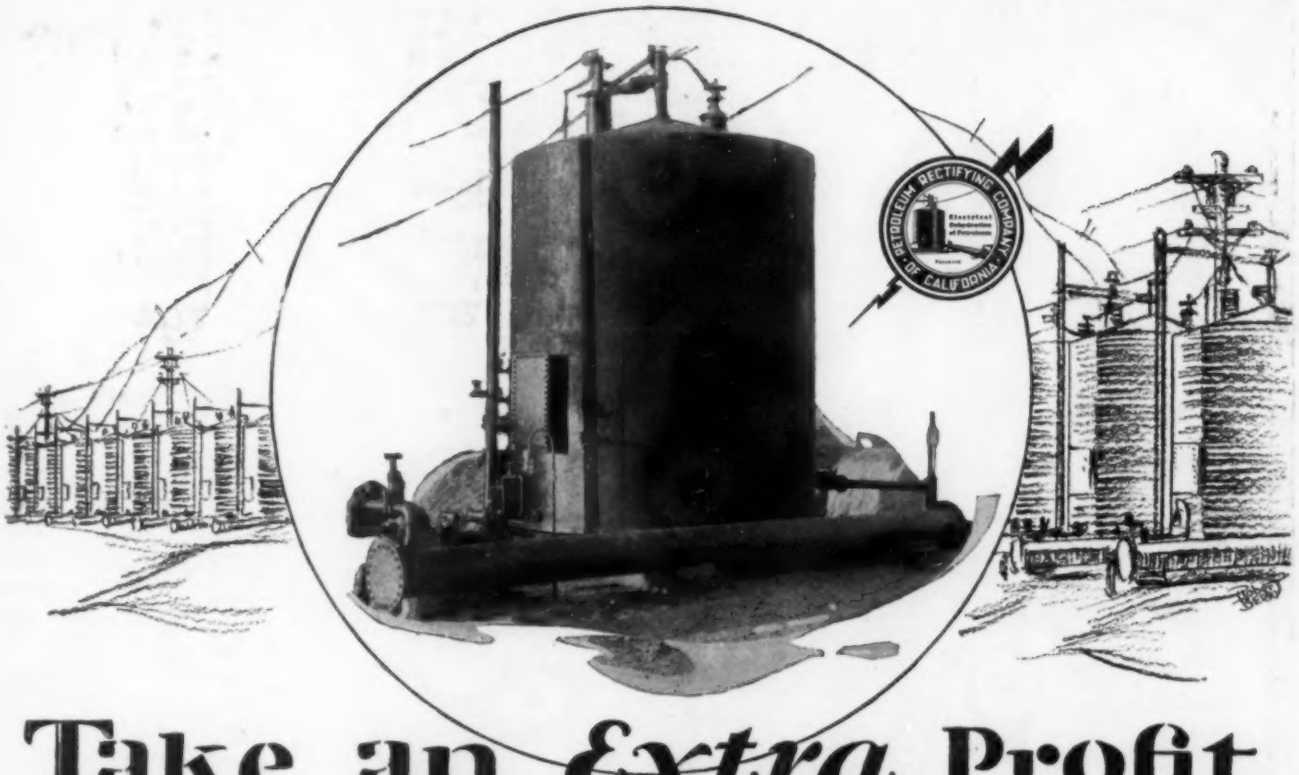
Ask Today for Catalog Describing This Machine in Detail.

Manufactured by

ROCK ISLAND PLOW COMPANY, ROCK ISLAND, ILLINOIS

C. F. CAMP AGENCY, Distributors, Tulsa, Oklahoma

P. O. Box 289 **14 East 7th Street**



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An Example of "PR" Results

A 30-UNIT installation of "P R" Electric Dehydrators, treating 12,000 barrels daily of a 40% emulsion of an extremely rebellious nature, has been in constant operation now for a period of three years, giving eminently satisfactory service.

The adoption of these P. R. Dehydrators prior to the refining process more than doubled the refining capacity: greatly reduced maintenance charges on refinery equipment; and resulted in shutting down a large pump station with a 50% reduction in pipe line pressure as well as the salvage of a considerable quantity of material and equipment formerly required in pumping the untreated emulsified oil and water a distance of 32 miles to the refinery.

The above results were in addition to the splendid success achieved in treating the crude -- elimination of the water and emulsion content, restoration of original gravity, and consequent increase in price of the crude to producer.

If results like this interest you get in touch with us. We can meet your requirements for plants of any capacity in single or multiple units.

PETROLEUM RECTIFYING COMPANY OF CALIFORNIA

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Branch: **338 Humble Building**
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ELECTRICAL PR **DEHYDRATORS**

Tom Bell (right), Superintendent of Wilshire Oil Co., Santa Fe Springs, California, stepped out in California sunshine to pose with a Hughes Bit and Hughes Tool Joints. They use Hughes Joints exclusively and Hughes Rock Bits on all hard formations. They have more than 20 strings of Hughes "Acme" Joints. The tools in the picture are new. They always keep a supply of Bits, Cones and Tool Joints on hand.

Hughes Tool Joints *Do* Last Longer—But Cost No More

HUGHES TOOL CO.

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